Oxygen 5

User Manual

Modular mixing console

(Rev. 4.0 ENG)

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1 OXYGEN 5 SERIES INTRODUCTION

The Oxygen 5 is a specially designed On-Air broadcast console. Although the design has been carefully budgeted, no compromises has been made in either quality or features, particularly in the areas of switching, signalling, fader start/stop and communication. Electronic components have been selected from the best on the market.
Faders, potentiometers and switches are by ALPS. Most all of the switches have led indicators and all similar functions are grouped and colour coded, with additional fader knobs with different channel colour coding. Long throw faders give a smooth, repeatable response. VCA control for input module sliders is available as an option.

Oxygen 5 modularity: The console is fully modular, which means flexibility in the configuration. The Mono, Stereo, Telco and Multi input modules can be placed anywhere in the chassis. A partially loaded Oxygen 5 can be completed using low cost 'blind' modules. The modular approach to the design means that module replacement, or expansion of the system can be carried out quickly and efficiently. A SUB module is available as an option. It offers a stereo Sub-Group output slider-controlled and integrates a fully-featured audio compressor which can be applied to Sub output itself or to any stereo source for 'talk-over' use. All modules are internally connected by a strong bus cable which clips into place - removal of the cable and two screws allows each module to be easily removed
Self Contained. The Oxygen 5 is a complete and self contained piece of hardware, requiring no additional items in order to be operated. All most popular functions are built-in, such as fader start/stop, Talk Back, loudspaker mouting, etc

Signaling and communications. Oxygen 5's wide range of functions provides the most immediate and complete broadcast control. For instance, it provides: Start/Stop commands, Studio - Control Room speakers cut-off, phantom microphone powering. All input/output connections are balanced on 1/4" jacks. The Oxygen 5 has also extensive possibilities for signaling and communications. The announcer/technician/producer/director can communicate with the announcer studio or to the callers connected to the Telco modules for private communications. MONO and TELCO modules allow also to control two relays activating ON-AIR lamps

1.1 OXYGEN 5 – AVAILABLE FRAME SIZE

Oxygen 5 console is available in two frame sizes: the frame 18, which can contain 18 overall modules, and the frame 26. A script try (10 module wide) can be fitted for both versions. The frames are inox steel + aluminium made, with wood finishing touch. Each console has always one output module (Master/ Monitor) to the far right which controls the Studio/Control Room monitoring, pre-fade listen and talkback functions. The meter bridge contains at least two VU / PPM meters (PFL/Master Left/Right).

CODE#	MODEL#	ARTICLE	COMMERCIAL DESCRIPTION
A103050010	**OX5-FR18**	**OXYGEN 5 Frame size 18 Channel**	Professional Broadcast modular console frame 16 IN +1, Master/Monitor, 2Vu, External Power Supply Unit 230/115Vac.
A103050011	**OX5-FR26**	**OXYGEN 5 Frame size 26 Channel**	Professional Broadcast modular console frame 24 IN +1, Master/Monitor, 2Vu, External Power Supply Unit 230/115Vac.

1.2 OXYGEN 5 – AVAILABLE MODULES

CODE#	MODEL	DESCRIPTION
A103050100	**OX5-MONO**	Mono (Micro/Line) module, VCA control, External control port for remote module control, without tone controls
A103050310	**OX5-MONO-EQ**	Tone section for Mono Module
A103050110	**OX5-ST-L/L**	Stereo (Line/Line) module, VCA control, External control port for Start/Stop, without tone controls
A103050111	**OX5-ST-P/L**	Stereo (Phono/Line) module, VCA control, external control port for Start/Stop without tone controls
A103050311	**OX5-ST-EQ**	Tone section for Stereo module (L/L and P/L)
A103050120	**OX5-TELCO**	Telco module (interface for externaltel ephone hybrids)
A103050150	**OX5-SUB**	Sub output module
A103050140	**OX5-MULTI**	Multi module with 6 Line Stereo inputs
A103050350	**OX5-MULTI-ADPT**	Adapter SubD/10 Jack F for Multi Module inputs
A103050220	**OX5-COV**	Cover module
A103050510	**OX5-MST/MNT**	Master/Monitor Module
A103050210	**OX5-SCRIPT**	Script Tray module 8 units - 304 mm.
A103050300	**OX5-TIMER**	Timer (up to 2 for each console)
A103050500	**OX5-PSU**	Power Supply Unit 230/115Vac with relay unit module for OnAir lamps
A103050530	**OX5-NSL**	Slider stereo Alps N 90° series with knob
A103050340	**OX5-KSL**	Stereo slider Alps K series with knob
A103050550	**OX5-LVM**	VU Meter lights set (5 pcs)
A103050360	**OX5-2VU**	Spare Vu Meter pair

1.3 THIS MANUAL

This User Manual has been developed for Oxygen 5 Frame 18 and Oxygen 5 Frame 26 size. Some features can be changed without notice.

1.4 AVAILABLE FRAME SIZE PICTURES

A103050010	**OX5-FR18**	**OXYGEN 5** **Frame size 18 Channel**	Professional Broadcast modular console frame 16 IN +1, Master/Monitor, 2Vu, External Power Supply Unit 230/115Vac.

A103050011	**OX5-FR26**	**OXYGEN 5** **Frame size 26 Channel**	Professional Broadcast modular console frame 24 IN +1, Master/Monitor, 2Vu, External Power Supply Unit 230/115Vac.

1 SAFETY WARNINGS / ISTRUZIONI PER LA SICUREZZA

SAFETY WARNINGS

CONSIGNES DE SÉCURITÉ IMPORTANTES

ISTRUZIONI IMPORTANTI PER LA SICUREZZA

WICHTIGE SICHERHEITSHINWEISE

INSTRUCCIONES IMPORTANTES DE SEGURIDAD

(Rel. 2.0)

1.1 FOREWORD

For your own safety and to avoid invalidation of the warranty all text marked with these Warning Symbols should be read carefully.

Information in this manual is subject to change without notice and does not represent a commitment on the part of the vendor.

The manufacturer shall not be liable for any loss or damage whatsoever arising from the use of information or any error contained in this manual, or through any mis-operation or fault in hardware contained in the product.

It is recommended that all maintenance and service on the product should be carried out by the manufacturer or its authorised agents. The manufacturer cannot accept any liability whatsoever for any loss or damage caused by service, maintenance or repair by unauthorised personnel.

2 SAFETY WARNINGS

The installation and servicing instructions in this manual are for use by qualified personnel only.

- **Read All Instructions.** All safety and operating instructions must be read before operating the product. They also must be retained for future reference, as it contains a number of useful hints for determining the best combination of equipment settings for Yr particular application.
- **Heed All Warnings**. All warnings on the product and those listed in the operating instructions must be adhered to.
- **Heat**. This product must be situated away from any heat sources such as radiators or other products (including power amplifiers or transmitters) that produce heat.
- **Power Sources.** This product must be operated from the type of power source indicated on the marking label and in the installation instructions. If you are not sure of the type of power supplied to your facility, consult your local power company. Make sure the AC main voltage corresponds to that indicated in the technical specifications. If a different voltage (ex. 110/115 VAC) is available, open the equipment closure and set the voltage switch on the main supply circuit, located behind the AC socket
- **Power Cord Protection.** Power supply cords must be routed so that they are not likely to be walked on nor pinched by items placed upon or against them. Pay particular attention to the cords at AC wall plugs and convenience receptacles, and at the point where the cord plugs into the product
- **Use only with a cart,** stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- **Lightning**. For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the AC wall outlet and the audio connections. This will prevent damage to the product due to lightning and power line surges
- **Installation**. Configuration and installation should only be carried out by a competent installation engineer
- **Cabling**. Using high quality wires, well protected. Make sure the cable integrity.

This symbol alerts you to the presence of dangerous voltage inside the closure – voltage which may be sufficient to constitute a risk of shock. Do not perform any servicing other than that contained in the operating instructions. Refer all servicing to qualified personnel

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Do not change the voltage setting or replace the mains fuse without first turning the unit off and unplugging the mains cord

Make sure the AC main voltage corresponds to that indicated in the technical specifications. THIS APPARATUS MUST BE EARTHED !

To avoid risk of fire use the correct value fuse, as indicated on the label stuck on the right side of the unit.

This apparatus uses a single pole mains switch and does therefore not separate the unit completely from the mains power. To completely separate from mains power (in the event of danger) unplug mains power cord. As the MAINS plug is the disconnect device, the disconnect device shall remain readily operable.

3 CONSIGNES DE SÉCURITÉ IMPORTANTES

- **Lire ces consignes**
- **Conserver ces consignes**
- **Observer tous les avertissements**
- **Suivre toutes les consignes**
- **Ne pas utiliser cet appareil à proximité de l'eau**
- **Ne pas obstruer les ouvertures de ventilatio**n. Installer en respectant les consignes du fabricant
- **Ne pas installer à proximité d'une source de chaleur** telle qu'un radiateur, une bouche de chaleur, un poêle ou d'autres appareils (dont les amplificateurs) produisant de la chaleur.
- **Ne pas annuler la sécurité de la fiche de terre**, la troisième branche est destinée à la sécurité. Si la fiche fournie ne s'adapte pas à la prise électrique, demander à un électricien de remplacer la prise hors normes.
- **Protéger le cordon d'alimentation** afin que personne ne marche dessus et que rien ne le pince, en particulier aux fiches, aux prises de courant et au point de sortie de l'appareil
- **Utiliser uniquement les accessoires spécifiés par le fabricant**
- **Utiliser uniquement avec un chariot**, un support ou une table spécifié par le fabricant ou vendu avec l'appareil. Si un chariot est utilisé, déplacer l'ensemble chariot–appareil avec précaution afin de ne pas le renverser, ce qui pourrait entraîner des blessures
- **Débrancher l'appareil** pendant les orages ou quand il ne sera pas utilisé pendant longtemps.
- **Confier toute réparation à du personnel qualifié.** Des réparations sont nécessaires si l'appareil est endommagé d'une façon quelconque, par exemple: cordon ou prise d'alimentation endommagé, liquide renversé ou objet tombé à l'intérieur de l'appareil, exposition de l'appareil à la pluie ou à l'humidité, appareil qui ne marche pas normalement ou que l'on a fait tomber.
- **NE PAS exposer cet appareil aux égouttures et aux éclaboussements**. Ne pas poser des objets contenant de l'eau, comme des vases, sur l'appareil

Ce symbole indique la présence d'une tension dangereuse dans l'appareil constituant un risque de choc électrique.

Ce symbole indique que la documentation fournie avec l'appareil contient des instructions d'utilisation et d'entretien importantes.

Avant de modifier le commutateur de changement de tension ou replacer le fusible il faut débrancher l'appareil de la prise électrique. Pendant son usage, l'appareil doit etre branchee à la prise de terre

Utiliser le fusible principal AC avec le valeur qui est indiquée sur l'étiquette collée sur le coffret.

Assurez-vous que la tension principale AC correspond à celle indiquée dans les spécifications techniques.

L'interrupteur d'alimentation interrompt un pôle du réseau d'alimentation excepté le conducteur de terre de protection. En cas de danger, debrancher le cordon d'alimentation. Parce que la prise du réseau de alimentation est utilisée comme dispositif de déconnexion, ce dispositif doit demeuré aisément accessible

4 ISTRUZIONI IMPORTANTI PER LA SICUREZZA

- **Leggere le presenti istruzioni**
- **Conservare queste istruzioni**
- **Osservare tutte le avvertenze**
- **Seguire scrupolosamente tutte le istruzioni**
- **Non usare questo apparecchio in prossimità di acqua**
- **Non ostruire alcuna apertura per il raffreddamento**. Installare l'apparecchio seguendo le istruzioni
- **Non installare l'apparecchio accanto a fonti di calore** quali radiatori, aperture per l'afflusso di aria calda, forni o altri apparecchi (amplificatori inclusi) che generino calore
- **Non rimuovere il terminale di connessione a terra sul cordone di alimentazione**: esso ha lo scopo di tutelare l'incolumità dell'utilizzatore. Se la spina in dotazione non si adatta alla presa di corrente, rivolgersi ad un elettricista per far eseguire le modifiche necessarie.
- **Evitare di calpestare il cavo di alimentazione o di comprimerlo**, specialmente in corrispondenza della spina e del punto di inserzione sull'apparato.
- **Utilizzare solo dispositivi di collegamento e gli accessori specificati dal produttore.**
- **Utilizzare l'apparecchio** solo con un carrello, un sostegno, una staffa o un tavolo di tipo specificato dal produttore o venduto insieme all'apparecchio. Se si utilizza un carrello, fare attenzione negli spostamenti per evitare infortuni causati da ribaltamenti del carrello stesso.
- **Scollegare l'apparecchio dalla presa di corrente** durante i temporali o quando inutilizzato a lungo
- **Per qualsiasi intervento**, rivolgersi a personale di assistenza qualificato. È' necessario intervenire sull'apparecchio ogniqualvolta si verificano danneggiamenti di qualsiasi natura. Ad esempio, la spina o il cavo di alimentazione sono danneggiati, è entrato liquido nell'apparecchio o sono caduti oggetti su di esso, l'apparecchio è stato esposto alla pioggia o all'umidità, non funziona normalmente o è caduto.
- **Non esporre a sgocciolamenti o spruzzi**. Non appoggiare sull'apparecchio oggetti pieni di liquidi, ad esempio vasi da fiori.

Questo simbolo indica la presenza di alta tensione all'interno dell'apparecchio, che comporta rischi di scossa elettrica.

Questo simbolo indica la presenza di istruzioni importanti per l'uso e la manutenzione nella documentazione in dotazione all'apparecchio.

Non sostituire il fusibile o cambiare la tensione di alimentazione senza aver prima scollegato il cordone di alimentazione. L'APPARATO DEVE ESSERE CONNESSO A TERRA.

Sostituire il fusibile generale con uno di identico valore, come indicato sulla etichetta applicata sul mobile dell'apparato

Assicurarsi che la tensione di rete corrisponda a quella per la quale è configurato l'apparecchio

Questo apparato utilizza un interruttore di alimentazione di tipo unipolare e l'isolamento dalla rete elettrica non è pertanto completo. Per ottenere un isolamento totale (ad esempio in caso di pericolo), scollegare il cordone di alimentazione. Inoltre, poichè la spina di alimentazione è utilizzata come dispositivo di sezionamento, essa deve restare facilmente raggiungibile

5 WICHTIGE SICHERHEITSHINWEISE

- **Diese Hinweise LESEN**
- **Diese Hinweise AUFHEBEN**
- **Alle Warnhinweise BEACHTEN**
- **Alle Anweisungen BEFOLGEN**
- **Dieses Gerät NICHT in der Nähe von Wasser verwenden**
- **KEINE Lüftungsöffnungen verdecken**. Gemäß den Anweisungen des Herstellers einbauen
- **Nicht in der Nähe von Wärmequellen**, wie Heizkörpern, Raumheizungen, Herden oder anderen Geräten (einschließlich Verstärkern) installieren, die Wärme erzeugen
- **Die Schutzfunktion des Schukosteckers NICHT umgehen**. Bei Steckern für die USA gibt es polarisierte Stecker, bei denen ein Leiter breiter als der andere ist; US-Stecker mit Erdung verfügen über einen dritten Schutzleiter. Bei diesen Steckerausführungen dient der breitere Leiter bzw. der Schutzleiter Ihrer Sicherheit. Wenn der mitgelieferte Stecker nicht in die Steckdose passt, einen Elektriker mit dem Austauschen der veralteten Steckdose beauftragen
- **VERHINDERN, dass das Netzkabel gequetscht oder darauf getreten wird**, insbesondere im Bereich der Stecker, Netzsteckdosen und an der Austrittsstelle vom Gerät
- N**UR das vom Hersteller angegebene Zubehör** und entsprechende Zusatzgeräte verwenden.
- **NUR in Verbindung** mit einem vom Hersteller angegebenen oder mit dem Gerät verkauften Transportwagen, Stand, Stativ, Träger oder Tisch verwenden. Wenn ein Transportwagen verwendet wird, beim Verschieben der Transportwagen-Geräte- Einheit vorsichtig vorgehen, um Verletzungen durch Umkippen
- **Das Netzkabel dieses Geräts** während Gewittern oder bei längeren Stillstandszeiten aus der Steckdose ABZIEHEN.
- **Alle Reparatur- und Wartungsarbeiten** von qualifiziertem Kundendienstpersonal DURCHFÜHREN LASSEN. Kundendienst ist erforderlich, wenn das Gerät auf irgendwelche Weise beschädigt wurde, z.B. wenn das Netzkabel oder der Netzstecker beschädigt wurden, wenn Flüssigkeiten in das Gerät verschüttet wurden oder Fremdkörper hineinfielen, wenn das Gerät Regen oder Feuchtigkeit ausgesetzt war, nicht normal funktioniert oder fallen gelassen wurde.
- **Dieses Gerät vor Tropf- und Spritzwasser SCHÜTZEN**. KEINE mit Wasser gefüllten Gegenstände wie zum Beispiel Vasen auf das Gerät STELLEN.

Dieses Symbol zeigt an, dass gefährliche Spannungswerte, die ein Stromschlagrisiko darstellen, innerhalb dieses Geräts auftreten.

Dieses Symbol zeigt an, dass das diesem Gerät beiliegende Handbuch wichtige Betriebs- und Wartungsanweisungen enthält.

Vor Änderung der Netzspannung oder Sicherungswechsel Netzkabel trennen.
Das Gerät muss für den Betrieb geerdet werden.

Hauptsicherung nur mit einer gleichwertigen austauschen
(s. entsprechende Etikette).

Vor Einschalten Netzspannungseinstellung am Gerät überprüfen bzw. anpassen.

Inpoliger Netzschalter. In Notfälle oder für Wartungsarbeiten Netzkabel trennen. Der Netzstecker fungiert auch als Trennelement muss deshalb zugänglich bleiben

6 INSTRUCCIONES IMPORTANTES DE SEGURIDAD

- **LEA estas instrucciones**
- **CONSERVE estas instrucciones**
- **PRESTE ATENCION a todas las advertencias.**
- **SIGA todas las instrucciones**
- **NO utilice este aparato cerca del agua**
- **NO obstruya ninguna de las aberturas de ventilación.**Instálese según lo indicado en las instrucciones del fabricante
- **No instale el aparato cerca de fuentes de calor** tales como radiadores, registros de calefacción, estufas u otros aparatos (incluyendo amplificadores) que produzcan calor
- **NO anule la función de seguridad del enchufe polarizado** o con clavija de puesta a tierra. Un enchufe polarizado tiene dos patas, una más ancha que la otra. Un enchufe con puesta a tierra tiene dos patas y una tercera clavija con puesta a tierra. La pata más ancha o la tercera clavija se proporciona para su seguridad. Si el toma corriente no es del tipo apropiado para el enchufe, consulte a un electricista para que sustituya el toma corriente de estilo anticuado
- **PROTEJA el cable eléctrico** para evitar que personas lo pisen o estrujen, particularmente en sus enchufes, en los toma corrientes y en el punto en el cual sale del aparato
- **UTILICE únicamente los accesorios especificados por el fabricante**
- **UTILICESE únicamente** con un carro, pedestal, escuadra o mesa del tipo especificado por el fabricante o vendido con el aparato. Si se usa un carro, el mismo debe moverse con sumo cuidado para evitar que se vuelque con el aparato
- **DESENCHUFE el aparato** durante las tormentas eléctricas, o si no va a ser utilizado por un lapso prolongado.
- **TODA reparación** debe ser llevada a cabo por técnicos calificados. El aparato requiere reparación si ha sufrido cualquier tipo de daño, incluyendo los daños al cordón o enchufe eléctrico, si se derrama líquido sobre el aparato o si caen objetos en su interior, si ha sido expuesto a la lluvia o la humedad, si no funciona de modo normal, o si se ha caído.
- **NO exponga** este aparato a chorros o salpicaduras de líquidos. NO coloque objetos llenos con líquido, tales como floreros, sobre el aparato.

Este símbolo indica que la unidad contiene niveles de voltaje peligrosos que representan un riesgo de choques eléctricos.

Este símbolo indica que la literatura que acompaña a esta unidad contiene instrucciones importantes de funcionamiento y mantenimiento.

Antes de cambiar la alimentacion de voltaje o de cambiar el fusible, desconecte el cable de alimentacion. Para reducir el riesgo de descargas electricas, esta unidad debe ser conectada a tierra.

Remplaze el fusible con lo mismo, que corresponde a lo indicado en el panel del equipo.

Antes de encender, controlar que la linea de alimentacion de voltaje corresponda a la indicada

El interruptor de alimentación es unipolar. En el caso de peligro, desconecte el cable de alimentación. Porque la clavija de conexion a red sirve por la desconection de la unidad, la clavija debe ser ubicada en proximidad de la unidad

7 UNPACKING AND INSPECTION

Your equipment was packed carefully at the factory in a container designed to protect the unit during shipment. Nevertheless, we recommend making a careful inspection of the shipping carton and the contents for any signs of physical damage.

Damage & Claims

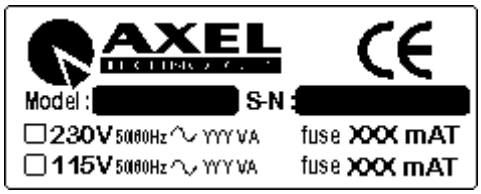
If damage is evident, do not discard the container or packing material. Contact your carrier immediately to file a claim for damages. Customarily, the carrier requires you, the consignee, to make all damage claims. It will be helpful to retain the shipping documents and the waybill number.

Save all packing materials! If You should ever have to ship the unti (e.g. for servicing), it is best to ship it in the original carton with its packing materials because both the carton and packing material have been carefully designed to protect the unit.

Under normal conditions no user maintenance or calibration are required. Internal links and preset controls may be set to configure the unit during installation. **Any service work required should be carried out by qualified service personnel only.**
We are able to offer further product support through our worldwide network of approved dealers and service agents.

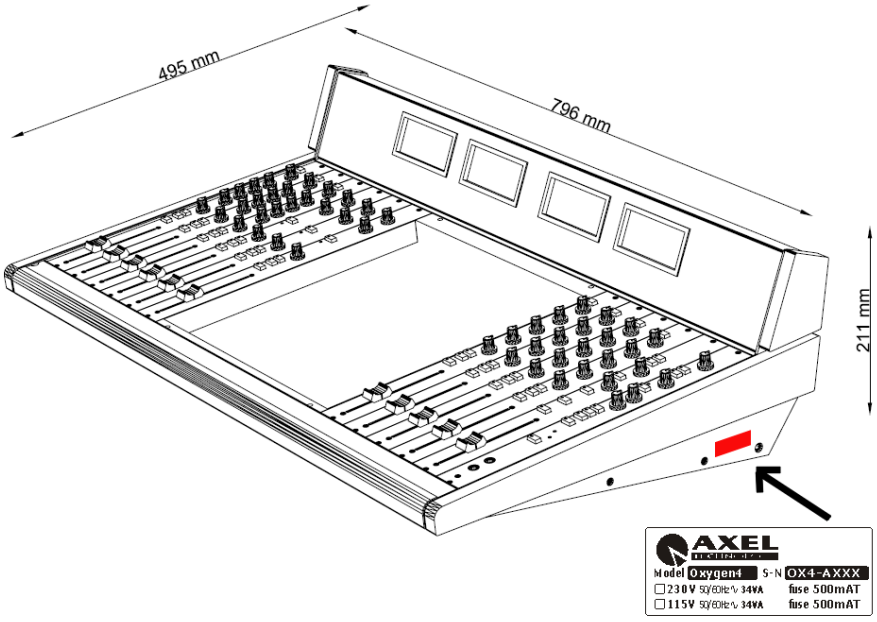
To help us provide the most efficient service please would you keep a record of the unit serial number, and date and place of purchase to be quoted in any communication regarding this product.

The actual equipment Serial Number is indicated on the silver label stuck on the rear panel of the equipment closure.



Tools And Equipment Needed

Only standard technician's tools are required to install this equipment.



8 FIRST INSTALLATION RECOMMENDATIONS

8.1 POWER SUPPLY CABLE

A power supply cable of approx. 2 mt length is supplied with the device, which has a moulded IEC plug attached – this is a legal requirement.
The type of plug for the power supply depends on the country in which it is delivered.

If for any reason, you need to use this appliance with a different plug, you should use the following wiring guidelines in replacing the exsisting plug with the new one:

Earth	Green, or green and yellow
Neutral (N)	Blue
Live (L)	Brown

Supply cables should be laid in such a manner that one does not step or walk on them. They should not be squashed by any objects.

THIS EQUIPMENT MUST BE EARTHED.

The chassis is always connected to mains earth to ensure your safety: check your mains wiring and earthing before switching on.

8.2 AC MAINS VOLTAGE SETTING (230 V / 115 V)

BE SURE THAT THE UNIT IS SET TO THE CORRECT MAINS/LINE VOLTAGE FOR YOUR COUNTRY BEFORE PLUGGING IT INTO THE WALL OUTLET !

The actual Mains voltage is indicated on the label stuck on the equipment closure. Should the type of power at the operation location not be known, please contact your dealer or electricity company.

If, for some reason, the unit is to be operated at a mains input voltage which is different to that as supplied, you need to switch the voltage selector on the right side of the unit. You also need to replace the AC main fuse, according to information provided on the external label or on the Technical Specifications table at the end of this user manual.

CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, ALWAYS DISCONNECT THE AC MAINS CABLE BEFORE ALTERING THE CHANGE-OVER SWITCH. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

8.3 FUSE REPLACEMENT

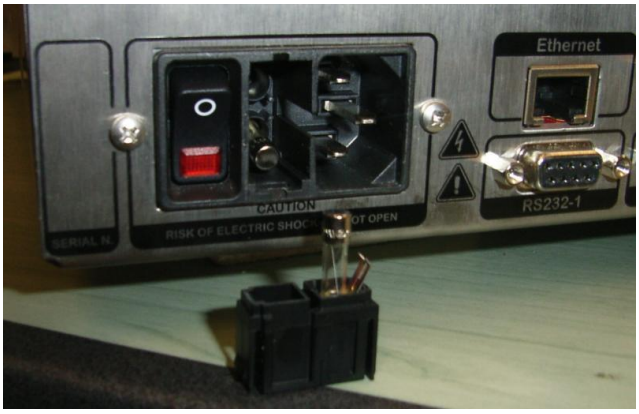
The power supply socket has an integral fuse drawer containing the AC power fuse and a spare, both of the same value.

BEFORE REPLACING THE POWER FUSE, MAKE SURE YOU HAVE THE RIGHT TYPE OF FUSE FOR THE VOLTAGE TO BE PROTECTED.
USING WRONG FUSE TYPE WILL RESULT IN INSUFFICIENT PROTECTION.

Make sure that the power is switched off and the power cable is disconnected from the equipment.

a. Open the fuse drawer using a small blade screwdriver.

b. Replace the fuse located at the internal position



c. Push the fuse socket back into the original position (a.)

Perform the set-up under static control conditions. Static charges are likely to completely destroy one or more of the CMOS semiconductors employed in the unit. Static damage will not be covered under warranty.
Basic damage prevention consists of minimizing generation, discharging any accumulated static charge on your body and preventing that discharge from being sent to or through any electronic component.

Uninsulated dangerous voltage are inside the enclosure, voltage that may be sufficient to constitute a risk of shock.
Always disconnect to AC Mains before removing the top cover

8.4 PROTECTION AGAINST LIGHTNING

Should the device be put out of action due to being struck by lightning or excess voltage, disconnect it from the power supply without delay. Do not reconnect until the device has been checked. If in doubt contact the technical support service.

Make sure there is suitable lightning protection to protect the device.
Alternatively you should disconnect all connectors from the device during a storm or when the device is going to be unsupervised or not used for a longer period of time.
These measures will protect against damage by lightning or excess voltage.

8.5 VENTILATION

The equipment will operate as a free-standing unit without requiring any special cooling arrangement.
However, slots and openings in the product are provided for ventilation. They ensure reliable operation of the product, keeping it from overheating. These openings must not be blocked nor covered during operation.
YOU MUST LEAVE AT A MINIMUM ONE RACK UNIT OF EMPTY SPACE ABOVE THE EQUIPMENT TO ENHANCE VENTILATION AND TO GET A LONGER EQUIPMENT LIFE.

8.6 EARTHING

The connection to earth (ground) in an audio system is crucial for two reasons:

1. SAFETY
2. AUDIO PERFORMANCE

For safety it is important that all equipment earths are connected to mains earth so that exposed metal parts are prevented from carrying high voltage which can injure the operator.

The same earth is also used to shield audio cables from external interference such as the hum fields associated with power transformers, lighting dimmer buzz, and computer radiation. Problems arise when the signal sees more than one path to mains earth. An earth loop results causing current to flow between the different earth paths. This condition is usually detected as a mains frequency audible hum or buzz. To ensure safe and trouble-free operation we recommend the following:

Use a clean mains outlet for the audio system: Be sure to use a 'clean' power outlet, i.e. one that is fed directly from the mains, including earth. "Polluted" mains are caused by changing currents on the outlets, such as air-conditioners, coffee machines, fridges, computers, dimmer packs etc. DO NOT connect any of these types of items to the Oxygen 5 main power outlet.

Use star point earthing: It is best to install a ‘star point’ system where the individual earths to the equipment racks and equipment areas are separately run from a solid central reference earth point.
It is advisable to install several multiple mains connectors close to the Oxygen 5, with a master power switch to shut down all power to the studio..

Have your mains system checked by a qualified electrician.

Do not remove the earth connection from the console mains plug: The console chassis is connected to mains earth through the power cable to ensure your safety. Audio ground is connected to the console chassis internally.
If problems are encountered with earth loops disconnect the audio cable screens at one end, usually at the destination. Equipment such as CD players do not have a mains ground connection. In this case the shielding can be connected on both sides of the connection - a ground loop will not occur. Try to choose a CD player with metal housing.

Avoid induced interference: To prevent interference pickup keep audio cables away from mains power units, cables and distribution boards, motors, lighting and computer cables and equipment, and any other heavy duty electrical equipment. Where this cannot be avoided cross the audio and ‘dirty’ equipment cables at right angles to minimise interference.

Use low impedance sources such as microphones and line level equipment rated at 200 ohms or less to reduce susceptibility to interference. The console outputs are designed to operate at low impedance to minimise interference problems.

Use balanced connections where possible as these provide further immunity by cancelling out interference that may be picked up on long cable runs. To connect an unbalanced source to a console input (balanced), link the cold input (XLR pin 3 or jack ring) to 0V earth (XLR pin 1 or jack ground) at the console. To connect the console output (balanced) to an unbalanced destination, link the cold output to 0V earth at the console.

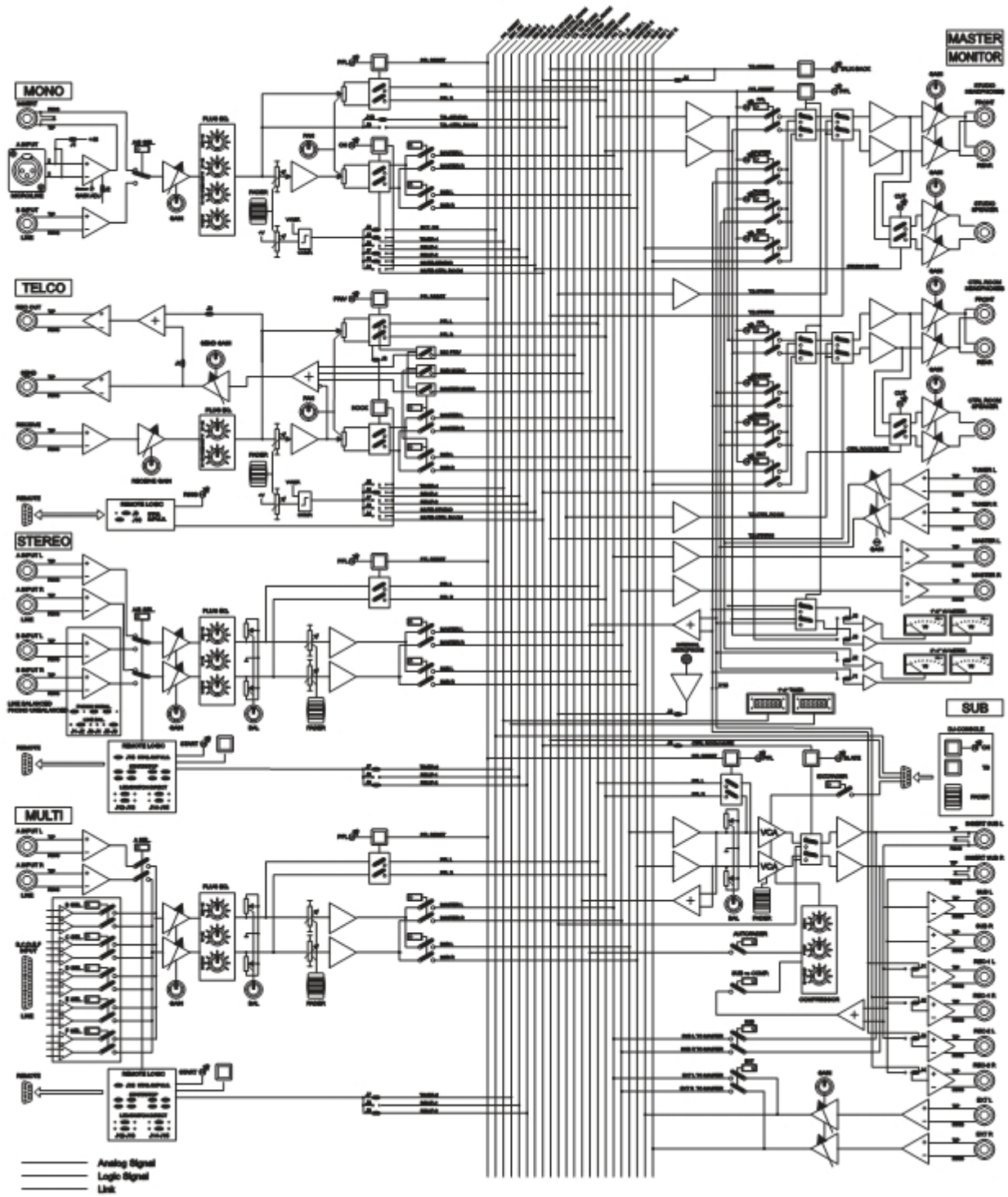
Use good quality cables and connectors and check for correct wiring and reliable solder joints. Allow sufficient cable loop to prevent damage through stretching.

If you are not sure ... Contact your Axel Technology agent for advice.

8.7 POSITION

The console should be located in a convenient space commensurate with the use to which the console is being put. Ideally a cool area is preferred not in close proximity to power distribution equipment or other potential sources of interference. Provision should be made for some flat surface surrounding the console to prevent people using it as a table top.

9 BLOCK DIAGRAM

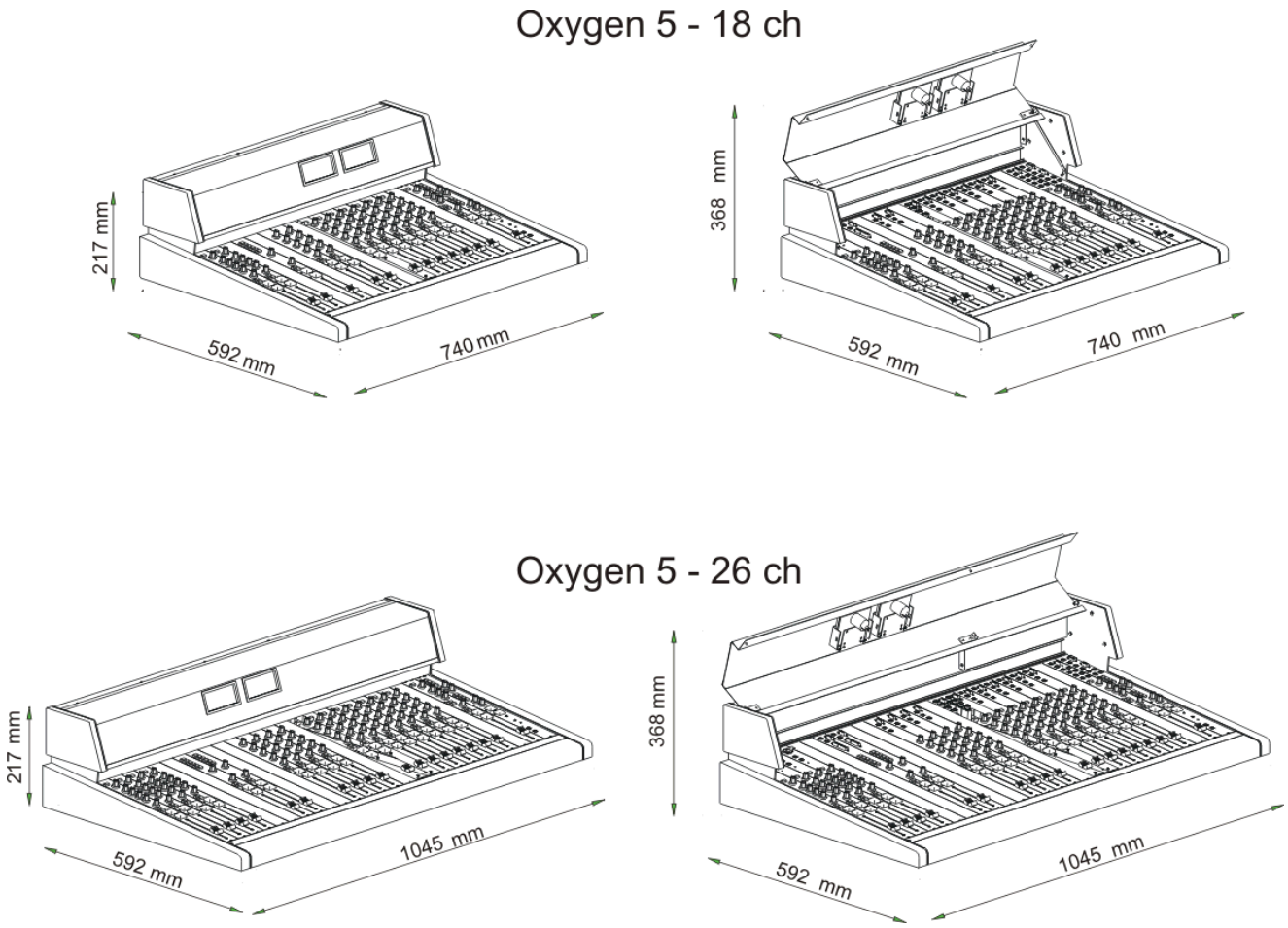


10 INSTALLING THE MIXER UNIT

The Oxygen 5 is supplied as standard without connector cables. The Oxygen 5 mainframe can sit on top of the studio furniture counter (see the dimensioned drawing below expressed in mm):

There must be at least 375 mm of vertical clearance so the meterbridge can be fully opened into its service position.

Only 30 mm of rear clearance is required behind the mainframe.

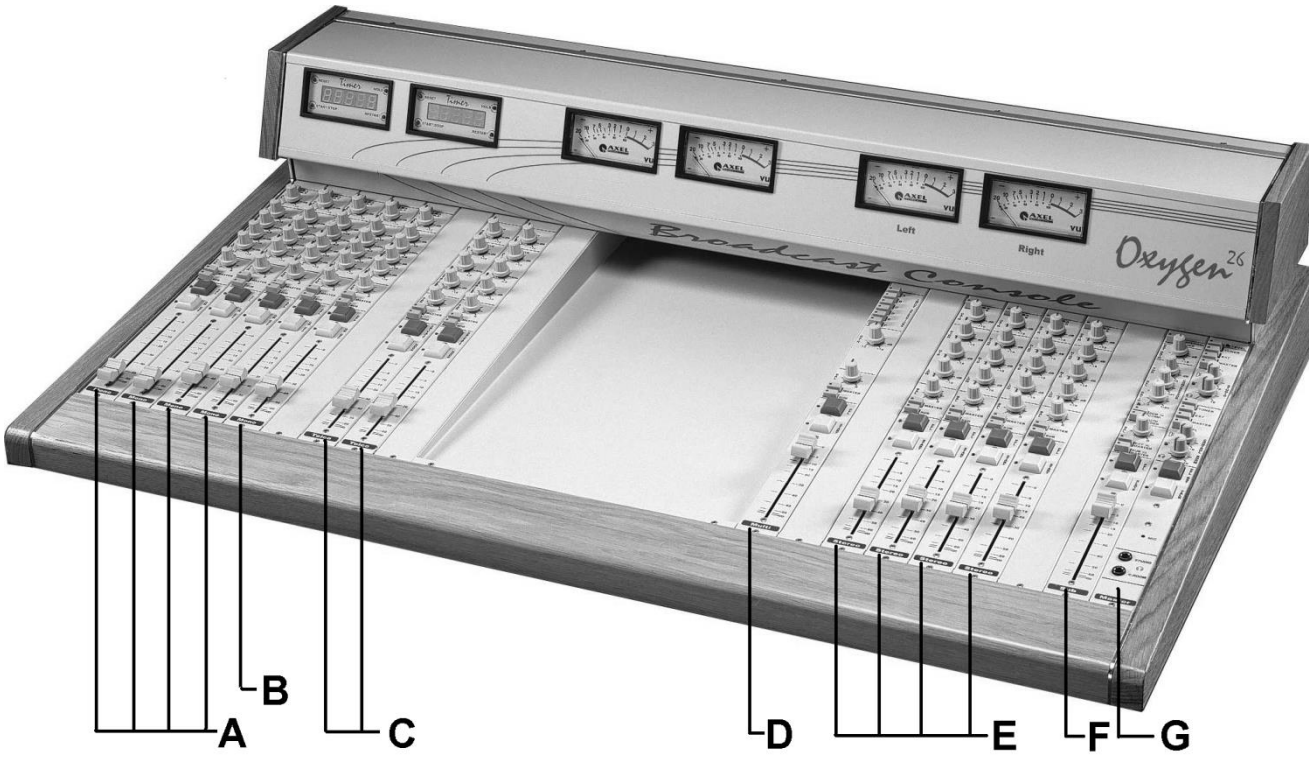


Frame Size	Width
18 modules Frame	745 mm
26 modules Frame	1050 mm

Do not locate the console near intense electromagnetic hum fields, such as those produced by large power transformers and by audio amplifiers which use inexpensive transformers operating in or near saturation.
Strong electromagnetic fields may impair the performance of the Oxygen 5 and neighbouring equipment. Audio cables must also be routed to achieve maximum practical distance from all AC power mains wiring.

11 FACTORY PRESET CONSOLE CONFIGURATION

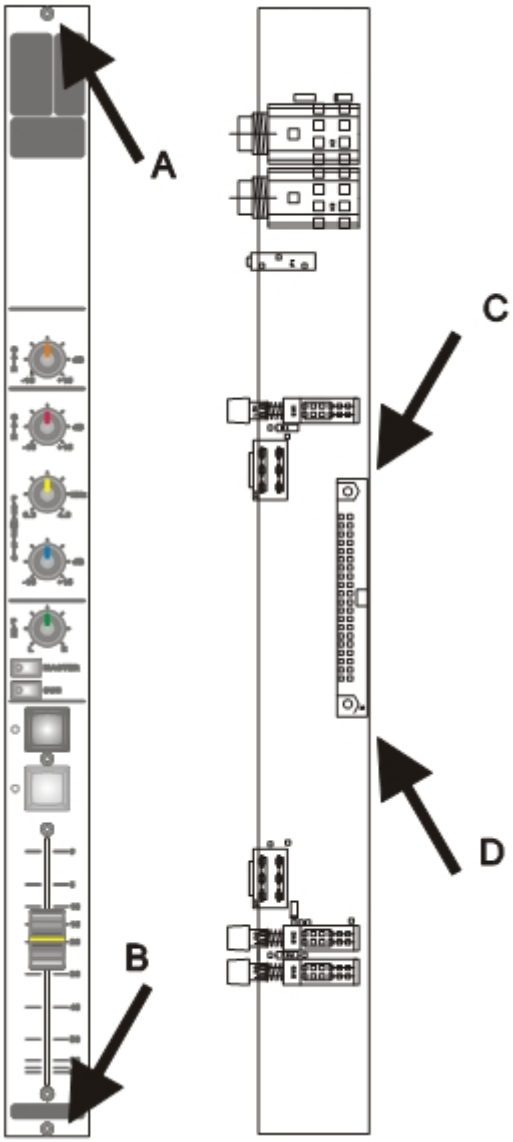
Oxygen 5 comes from the factory with the following MAIN settings:



MONO MODULES (A and B) ref to par. 12.2	The Mono module closest to the centre of the console (**B**) is set for **Control Room** microphones and **Jumpers J2, J 4, J6** are **closed** (i.e. TalkBack path is routed to the Studio, Relay 1 in the PWS is addressed and Control Room Speakers are muted). The Mono module(s) at Yr left hand (**A**) is (are) set for **Studio microphones** and **Jumpers J3, J 5, J7** are **closed** (i.e TalkBack path is routed to the Control Room, Relay 2 in the PWS is addressed and Studio Speakers are muted) **Phantom power** is set as **disabled**
TELCO MODULES (C) ref to par. 15.3	No settings
MULTI MODULE (D) ref.to par.	If not otherwise notified, all the inputs are set for LINE-type sources
STEREO MODULES (E) ref.to par.	If not otherwise notified, all the inputs are set for LINE-type sources
SUB MODULE	
MASTER MODULE (E) ref to par. 16.2	Studio Speaker output is set for LINE level, the TalkBack internal microphone is disabled, automatic Control Room speaker muting is set as disabled.

11.1 MODULE REMOVING AND INSTALLATION

Input modules can be removed and installed ONLY with the console powered off.



Turn the power OFF
2) Unscrew the TOP screw using a ‘cross’ screwdriver (see screw ‘A’ in the figure)
3) Unscrew the BOTTOM screw (see ‘B’ in the figure)
4) Gently lift the module
5) Unlock the two hooks at the ‘flat cable’ connector ends (see hooks ‘C’ and ‘D’)

Note: for a more comfortable and safe operation, it is suggested to loose/remove one of the two adjacent modules as well

6) Disconnect the main cable bus
7) Take the rear module off

At this moment, You can easily set the Jumpers in their right position.

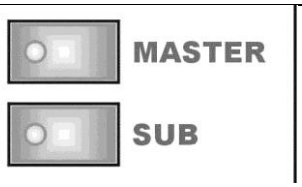
8) Follow these steps in reverse order to place the module back into the console frame

11.2 ALIGNEMENT OF INPUTS

When plugging in a new source start with the channel muted or fader turned down and the PFL activated. This prevents any unexpected signal in the loudspeakers. The signal is displayed on the MONITOR meters.
Adjust the channel GAIN control for an average channel meter reading of '0' with loud moments lighting '+3'.
Adjust the Gain trimmers if the signal is still too high with gain turned down. Reduce the gain if the signal meter always ranges in the 0 ÷ + 3dB area. It may be necessary to re-adjust the gain if changes are made to the equaliser or inserted signal processing.

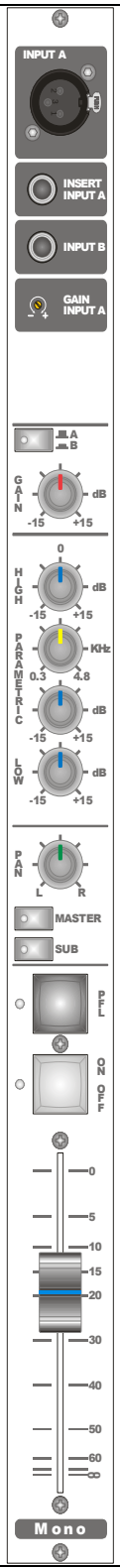
Select channel PFL to check the signal quality in the headphones while the fader is off or the channel is muted.

11.3 MASTER-SUB ROUTING SWITCHES

	The input channel signal may be routed to the main Stereo MIX (L-R) and/or to the SUB bus by pressing the respective switches. The Sub mix can be mixed into the main mixbus (Master) (see MASTER switcher on the Sub module). This is a convenient way to use the SUB assigment as a subgroup system, creating new possibilities in the console.

12 MONO MODULE

12.1 DESCRIPTION



The Mic/Line Input module is a mono input controlled by a **button switch** to select either Mic (INPUT A) or Mono Line (INPUT B). A LED glows red when the INPUT B is selected. The **B Input** is via a 1/4" Jack connector and it is set for mono signals providing a LINE level such as RadioMic receivers, ISDN codecs.

There is a coarse adjustment for A input with multi-turn control recessed at the top of the module. It allows you to adjust the gain by up to 40 dB. In conjunction with the GAIN potentiometer (see) this allows you to adjust the overall gain to any desired figure within the available range.
A jumper inside the module (J1) is available to apply phantom power to microphone A input. An unbalanced **INSERT** socket (**A**) is provided which is a break point in the input channel signal path.

The selected A or B source is fed through a common **GAIN potentiometer** that provides a variable 30dB range from -15 to +15dB gain to match the connected source to the internal 0 dBu operating level.

The **Equaliser** (**available as an option – ref. to Section** Errore. L'origine riferimento non è stata trovata.) comprises four sections. The upper control provides H.F.(treble) boost and cut of +/-15dB at 13 kHz, and the lower control provides L.F. (bass) boost and cut of +/-15dB at 100 Hz. The centre two knobs is arranged as MID frequency section, with a cut/boost control (lower knob) of +/- 15dB, and a frequency control which determines at which frequency the boost/cut action will be centered (the centre band can be swept from 300 Hz to 4.8 kHz). This MID section is particularly versatile for speech, enabling particular characteristics of the presenter to be lifted or suppressed very precisely. Set the cut/boost control of each section to the centre-detented position when not required.

The signal is then routed via a **Pan** control and the two stereo **routing switches** to either the main stereo programme (**MASTER**) or the stereo subgroup (**SUB**). There is a red LED inside each switch which will illuminate accordingly.

The pre-fade listening. **PFL** button mode allows pre-fade listening (post pan-pot) of the channel with the fader closed. When the PFL button is activated, the channel signal will be connected to the PFL output and to the meters circuitry (see also METERBRIDGE Chapter). Even when the channel is active, the PFL system is active. It always operates in the SINGLE Mode (i.e. only one PFL is active at once). The PFL function can be cancelled:

- by using the PFL RESET button on the MASTER Module
- by activating PFL on another module

ALPS N-type 90° ultra smooth 100 mm sliders are provided on series.
On request, to notify at order, ALPS K series and **ALPS K/VCA** series sliders can be also fitted, the last ones controlling an internal high quality VCA circuitry. There is no audio going through the VCA faders. VCA faders do not therefore suffer from such severe noise and signal loss problems that conventional faders may have when wear and tear causes the resistive surface to deteriorate. The benefit is longer fader life, as the crackles and dropouts typical of the traditional audio faders are smoothed out.

12.2 MODULE OPTIONS AND JUMPER SETTINGS

The Mono module is intended to be connected to Microphones either placed in the Control Room or in the Studio.
With internal jumpers various settings/ automations can be enabled or disabled. The drawing on te next page shows the module PCB with the jumpers highlighted. The jumper-related functions are described in the table.

Jumpers **J9** and **J10** allow the user to route the TB accordingly to the microphone installation (TB will be set as 'TB to Control Room' when the announcer's microphone is in the studio and as 'TB to Studio' for use by the producer or the assistant in the Control Room).
In particular, when closed, the **TB** (to) **STUDIO** jumper **(J10)** put the signal from the pre-fade section of the module onto the TalkBack Studio audio Bus and allows it to be output on the Studio Monitor section (see MASTER module).
The major use of this facility is also that TB STUDIO bus feeds the Telco channels and will therefore allow the Producer to talk to a telephone caller off-air (see Telco module chapter).
When closed, the **TB** (to) **CONTROL ROOM** jumper **(J9)** put the signal from the pre-fade section of the module onto the TalkBack Ctrl Room audio Bus and allows it to be output on the Control Room Monitor section (see MASTER module).
The major use of this facility is the off-air communication from the Studio (e.g. the presenter) and the engineer in the Control Room.

A selective 'muting' of Control Room or Studio speakers is also provided via jumper settings (**J3** and **J4**). This option is for use with the microphone input. When a microphone is live to air, the monitor speakers in the room containing the microphone will need to be muted so that there is no acoustic feedback.
So, for example, if the microphone input is being used for a microphone in the studio, the studio monitors should be muted.
When the **C.ROOM MUTE** jumper **(J4)** is closed toward the front panel of the module, the Fader opening is associated to the cut-off of the **C.ROOM SPK** output on the MASTER module. CUT LED on the MASTER Ctrl Room section illuminates accordingly.
When the **C.ROOM MUTE** jumper **(J4)** is closed toward the flat cable connector of the module, the Fader opening is associated to the cut-off of the **C.ROOM SPK** output.
The same applies to STUDIO speakers (see J3 Jumper).

The module provides also a jumper selectable output to facilitate two relay closures for On-Air lamp switching on/off.
When the **RELAY 1** jumper **(J 7)** is closed, relay switch #1 inside the Power Supply closes when the module is ON. This relay may be used to control an On Air Lamp (such as MR. LIGHT by Axel Technology).
When the **RELAY 2** jumper **(J 6)** is closed, relay switch #2 inside the Power Supply closes when the module is ON. This relay may be used to control an On Air Lamp (such as MR. LIGHT by Axel Technology).

When the **TIMER 1** jumper **(J 5)** is closed, Timer 1 is activated when the ON-OFF key is pressed (Timer is available as an option).

12.3 THE RELAY (REMOTE)INTERFACE IN MONO MODULE

The 9 pin D-Type plug remote connector provides the inputs and outputs for the following functions :

- Remote Start for equipment connected to Input A and/or B
- Remote Stop for equipment connected to Input A and/or B
- Remote PFL enable

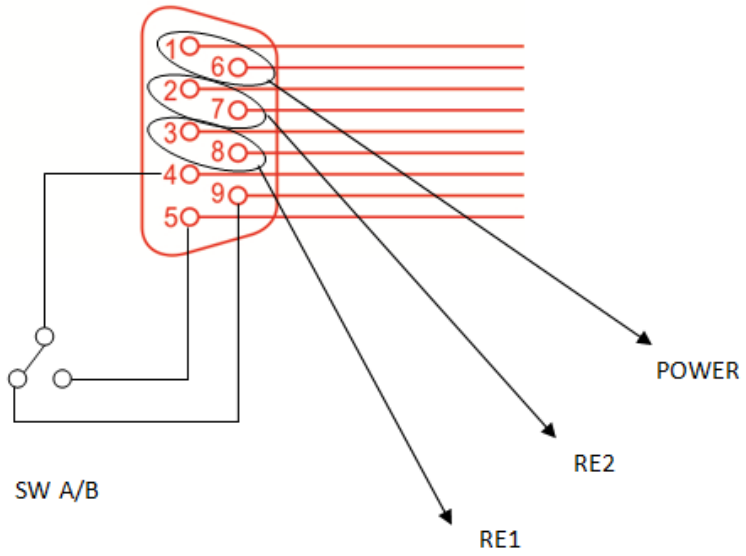
A + 6 VDC , 50 mV current-limited output is also provided for use with the remote control outputs. There are two general settings for the Remote Interface:

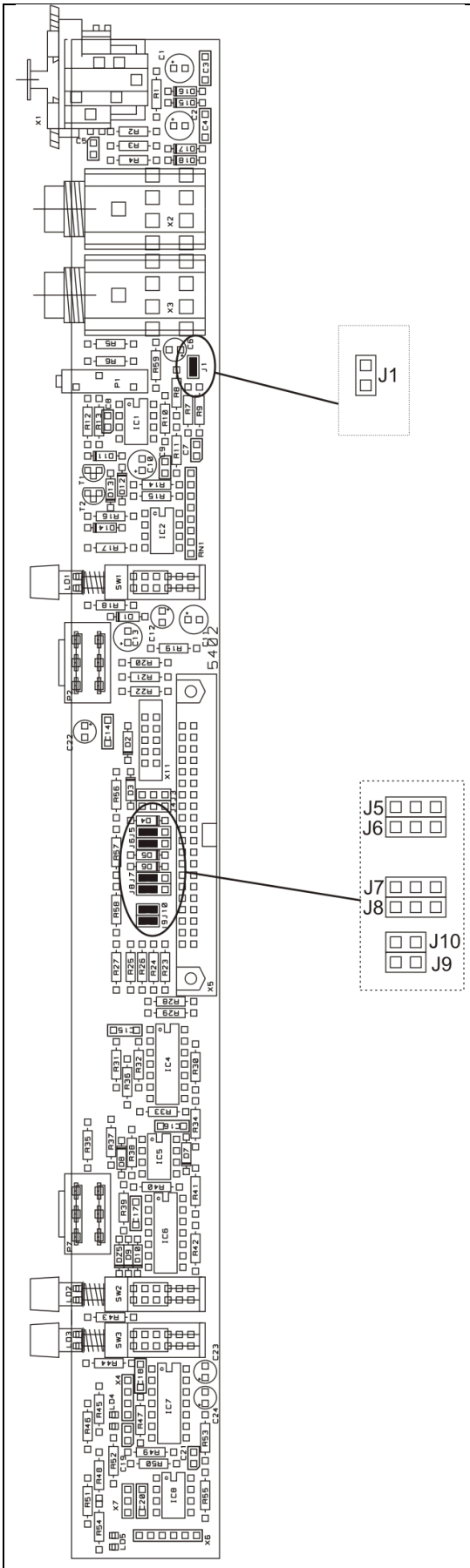
- RELAY = Relay Start / Stop commands (in Momentary / Latched mode - see jumper J17)

RELAY mode

1 GND
2 RE2 COMM
3 RE1 COMM
4 SW A/B COMM
5 SW A/B (n.o.) Ch B
6 +6V
7 RE2 (J9)
8 RE1 (J10)
9 SW A/B (n.c.) ChA

Two relay (RE1-J10 and RE2-J9) outputs can be used to **start** and **stop** a connected equipment. Outputs are active **continuously (latched) or momentary** (1 second), depending on J17 jumper, J9 and J10





JUMPER NAME			DESCRIPTION
J 1	PHANTOM		The phantom power (48V) is applied to the microphone-A input. The factory default for this jumper is 'OFF' (no jumper)
J 3	STUDIO SPK MUTE		Studio speakers will be muted when the ON-OFF key is pressed
			Studio speakers will be muted when the fader is opened (S)
J 4	C.ROOM SPK MUTE		C. Room speakers will be muted when the ON-OFF key is pressed
			C. Room speakers will be muted when the fader is opened (C)
J 5	TIMER 1 START		Timer 1 is activated when the ON-OFF key is pressed
			Timer 1 when the fader is opened
J 6	RELAY 2 ACTIVATION		Relay 2 is activated when the ON-OFF key is pressed
			Relay 2 is activated when the fader is opened (S)
J 7	RELAY 1 ACTIVATION		Relay 1 is activated when the ON-OFF key is pressed
			Relay 1 is activated when the fader is opened (C)
J 8	DJ CONSOLE		the channel is switched on from the DJ CONSOLE and/or from the local ON-OFF key
			the channel is switched on when the fader is opened (S) (C)
J 9	TALKBACK TO C.ROOM		Pre-fader signal is made available for TalkBack to C. Room (S)
J10	TALKBACK TO STUDIO		Pre-fader signal is made available for TalkBack to Studio (C)

(S) = indicates the default setting for MONO modules linked to STUDIO microphones (See Chapter 11)

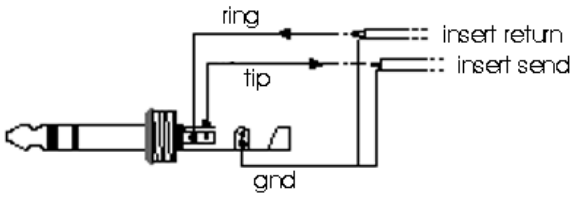
(C) = indicates the default setting for MONO modules linked to C.ROOM microphones (See Chapter 11)

PCB version 5202

12.4 THE PHANTOM POWER

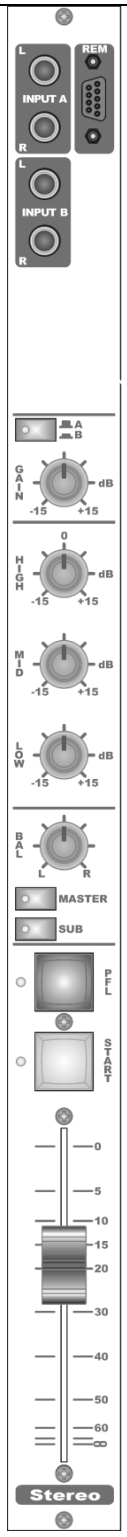
	The **A PHANTOM jumper** on the PCB (see J1 - par. 12.2) applies phantom powering + 48V to the MIC input A socket for condenser microphones. *The Phantom power is used to power microphones with built-in condenser or electrect preamplifiers. This system requires both conductors to have the same D.C. potential. So, it's indispensable that cables and connectors are balanced and in perfect condition. If these rules are observed, Phantom power can be applied even if microphones without preamplifier built-in (e.g. dynamic microphones) are connected, although it's preferable to avoid doing so.* **WARNING When using a Phantom powered microphone, ensure that the mixer is switched off before plugging the microphone in to the XLR connector.**

12.5 THE 'INSERT' SOCKET

	An unbalanced **INSERT** socket (**A**) is provided which is a break point in the input channel signal path. The insert point allows external piece of equipment such as limiters, compressors and other signal processing units to be added as required to particular input channels. The Insert is a 3-pole 1/4" 'A' gauge Jack Socket, which is normally by-passed. When a jack plug is inserted, the signal path is broken at a point just after the preamplifier stage, but before the Input Selection (A/B SEL key). The signal from the channel appears on the TIP of the plug and is returned on the RING to continue through to the final output (see *Connection* Chapter). 

13 STEREO MODULE

13.1 INTRODUCTION



Each STEREO module has dual switchable stereo line inputs with optional three-band EQ. **Input A** comes factory preset for **Line**. **Input B** is also set for signals providing a signal **LINE** level if not otherwise notified. Via jumper selection (ref to next Section), **an RIAA-equalised (grammophone) amplifier** can be also fitted so that a turntable can be connected directly to the input.

The selected A or B source is fed through a common **GAIN potentiometer** that provides a variable 30dB range from -15 to +15dB gain to match the connected source to the internal 0 dBu operating level.

The **Equaliser** (**available as an option – Ref to Section** Errore. L'origine riferimento non è stata trovata.) comprises three sections. The upper control provides H.F.(treble) boost and cut of +/-15dB at 13 kHz, and the lower control provides L.F. (bass) boost and cut of +/-15dB at 100 Hz. The centre knob provides a cut/boost control of +/- 15dB at 5 kHz. Set the cut/boost control of each section to the centre-detented position when not required.

The signal is then routed via a Balance control and two stereo routing switches to either the main stereo programme (Master) or the stereo subgroup (Sub).
There is a red LED inside each switch which will illuminate accordingly.

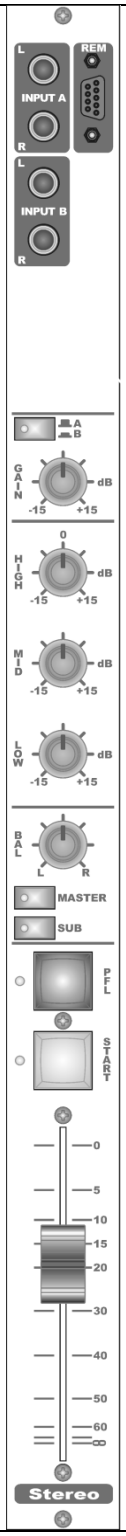
The pre-fade listening. **PFL** button mode allows pre-fade listening (post pan-pot) of the channel with the fader closed. When the PFL button is activated, the channel signal will be connected to the PFL output and to the meters circuitry (see also METERBRIDGE Chapter). Even when the channel is active, the PFL system is active. It always operates in the SINGLE Mode (i.e. only one PFL is active at once). The PFL function can be cancelled:

- by using the PFL RESET button on the MASTER Module
- by activating PFL on another module

A 9 pin D-Type plug remote connector provides the remote outputs (optocoupled or not) for the Start and Stop functions, controlled by START button. The remote Start/Stop operation can be jumper configured to be either momentary or latched (a feature that may be required for some types of equipment).

ALPS N-type 90° ultra smooth 100 mm sliders are provided on series.
On request, to notify at order, ALPS K series and **ALPS K/VCA** series sliders can be also fitted, the last ones controlling an internal high quality VCA circuitry. There is no audio going through the VCA faders. VCA faders do not therefore suffer from such severe noise and signal loss problems that conventional faders may have when wear and tear causes the resistive surface to deteriorate. The benefit is longer fader life, as the crackles and dropouts typical of the traditional audio faders are smoothed out.

13.2 STEREO MODULE CONFIGURATION

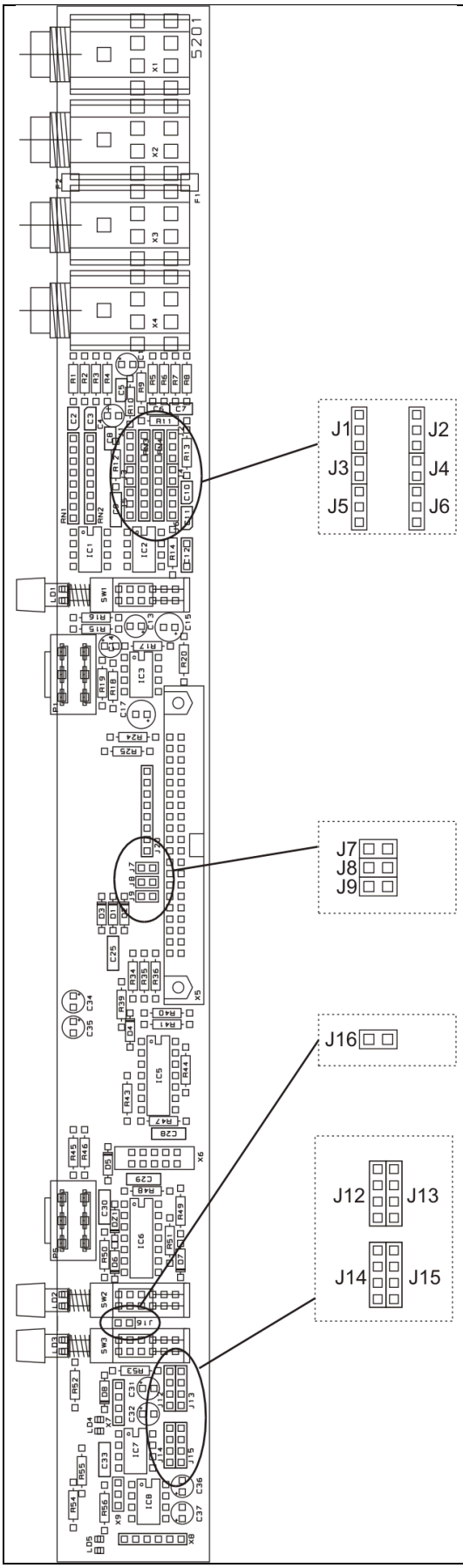


With internal jumpers various settings/ automations can be enabled or disabled. The drawing on the next page shows the module PCB with the jumpers highlighted. The jumper-related functions are described in the associated table.

The **B** Stereo **Input** can be configured either for **Line** or **Phono** sources, depending on the jumper **J1, J2, J3, J4 J5 and J6.** The Phono configuration is suitable for **record-players (turntables), as a RIAA equalization is featured.** NOTE PHONO connection is possible only in unbalanced mode.

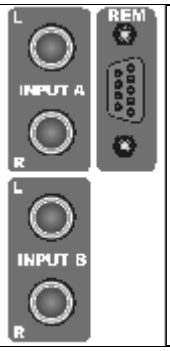
The module provides also a jumper selectable output to facilitate two relay closures for On-Air lamp switching on/off.
When the **RELAY 1** jumper **(J 9)** is closed, relay switch #1 inside the Power Supply closes when the START key is pressed. This relay may be used to control an On Air Lamp (such as MR. LIGHT by Axel Technology).
When the **RELAY 2** jumper **(J 8)** is closed, relay switch #2 inside the Power Supply closes when the START key is pressed. This relay may be used to control an On Air Lamp (such as MR. LIGHT by Axel Technology).
When the **TIMER 2** jumper **(J 7)** is closed, Timer 1 is activated when the START key is pressed (Timer is available as an option – see Chapter **Errore. L'origine riferimento non è stata trovata.**).

The **Remote Interface** provides the Start and the Stops for equipment connected to Input A and/or B.
There are **two general settings** for the Interface: Start / Stop commands can be provided via optocouplers (OPTO mode) or the Start / Stop key contacts can be directly brought to two interface pins (DIRECT mode). With OPTO mode engaged, the remote Start and Stop can be made either momentary or latched by setting the jumper J16. If no jumper is set, the Start and Stop remote operate in momentary mode.



JUMPER NAME		DESCRIPTION
J 1, J2, J3, J4, J5, J6 (PHONO / LINE)		They configure the INPUT B as LINE or as PHONO (see picture)
J 7	**TIMER 2**	Timer 2 is activated when the START key is pressed **
J8	**RELAY 2**	Relay 2 is activated when the START key is pressed **
J9	**RELAY 1**	Relay 1 is activated when the START key is pressed **
J16	**LATCH**	WITH JUMPER PRESENT: After the module has started or stopped, the start or stop outputs remain active (**latched**) – J12,J13, J14, J15 must be in the OPTO configuration WITH NO JUMPER: the start and stop outputs generate a pulse (500mSec - **momentary**) when the module is started or stopped – J12,J13, J14, J15 must be in the OPTO conf.
J12, J13, J14, J15 (OPTO / DIRECT)		They configure the START / STOP INTERFACE as optocoupled or direct driven by the START button
**		

13.3 THE REMOTE INTERFACE

			The 9 pin D-Type plug remote connector provides the inputs and outputs for the following functions : - Remote Start for equipment connected to Input A and/or B - Remote Stop for equipment connected to Input A and/or B - Remote PFL enable A +/- 6 VDC +/- 50 mV current-limited output is also provided for use with the remote control outputs.

There are **two general settings** for the Remote **Interface**

- **OPTO** = Start / Stop commands are provided via optocouplers
- **DIRECT** = Start / Stop key contacts are physically linked to interface pins, so that while the key is pressed, a shortcircuit will appear between pins 1 and 2. Start / Stop LED (located close the key) can be also directly driven from the interface.

Jumpers **J1, J2, J3, J4 J5 and J6** allows the user to set either the 'OPTO' or the 'DIRECT' interface mode.

N.B. With OPTO mode engaged, the remote Start and Stop can be made either momentary or latched by setting the jumper J16. If no jumper is set, the Start and Stop remote operate in momentary mode.

OX5 - STEREO 3100109021

DEFAULT SETTINGS

	DEFAULT	Start/Stop	
J2	OFF	OFF	J2 = PFL Additivo
J3	-	-	J3 = TIMER (to use only in 'START' STATUS position)
J4	OFF	OFF	J4 = EXTERNAL R (the signal is conveyed on the bus stereo module ext)
J5	OFF	OFF	J5 = EXTERNAL L (the signal is conveyed on the bus stereo module ext)
J6	-	-	J6 = RELAY 2
J7	-	-	J7 = RELAY 1
J8	OFF	ON	J8 = START FADER
J9	-	N.C.	J9 = RE2 (remote)
J10	-	N.O.	J10 = RE1 (remote)
J11	LINE	LINE	J11 = INPUT B PH/LINE
J12	LINE	LINE	J12 = INPUT B PH/LINE
J13	LINE	LINE	J13 = INPUT B PH/LINE
J14	LINE	LINE	J14 = INPUT B PH/LINE
J15	LINE	LINE	J15 = INPUT B PH/LINE

RE1(J10)= START (NORMAL OPEN)
RE2(J9) = STOP (NORMAL CLOSE)
J8 = FADER START

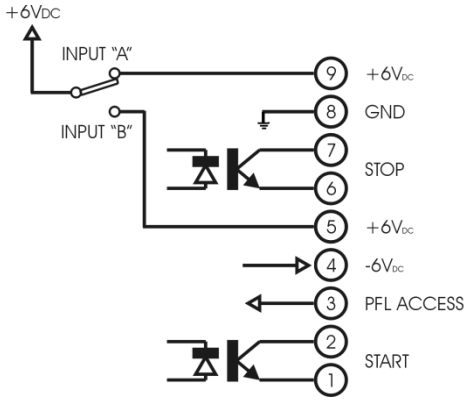
13.3.1 INTERFACE PIN-OUT WITH JUMPERS J12, J13, 14 AND J15 IN 'OPTO' CONFIGURATION

Two opto-coupler outputs can be used to start and stop a connected equipment. As a maximum, 24Vdc, or 10mA current may be switched. The outputs are active continuously (latched) or momentary, depending on the J16 jumper (see par. 13.2).

Note: the Remote Interface provides just one Start and one Stop remote for both A and B inputs. Start / Stop commands may be routed to the piece of equipment that needs to be controlled remotely via external, customer-designed circuits.

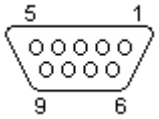
Depending on the selected Input (A or B), a + 6 VDC will appear on Pin 9 (Input A selected) and on Pin 5 (Input B selected) on the remote interface.

Only one of the two Pin will be therefore active (=high) at any time, depending upon the setting of the **B SEL switch** (see).



(console internal view)

PIN	DESCRIPTION	DIRECTION
9	+ 6 Vdc source (with **Input A** selected)	**OUT**
8	GND - Ground	**/**
7	Collector of photocoup. - **Stop** command	**OUT**
6	Emitter of photocoupler - **Stop** command	**OUT**
5	+ 6 Vdc source (with **Input B** selected)	**OUT**
4	- 6 Vdc source	**OUT**
3	Remote PFL enable	**IN**
2	Collector of photocoup. - **Start** command	**OUT**
1	Emitter of photocoupler - **Start** command	**OUT**



The remote Start and Stop can be made **either momentary (pulse) or latched** by setting the **jumper J 16** (ref. to previous paragraph). If no jumper is set, the Start / Stop remote operates in momentary mode.

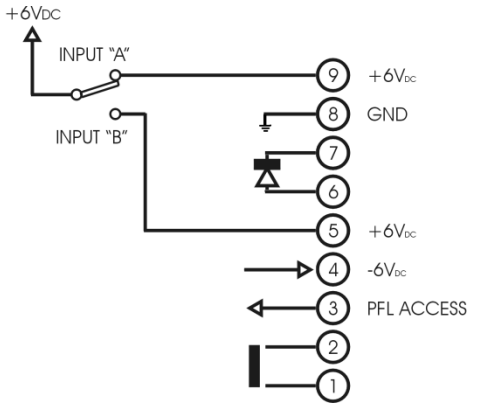
Please, consider than max current allowed on optocouplers is 10 mA (nominal: 5 mA). If needed, apply the provided + 6V tension through a **560 Ohm carbon resistor** in order to preserve optocouplers from extra currents.

NOTE A: Nearly all modern devices require pulse start commands. Continuous signals however, can have the advantage that during broadcast a CD player cannot be accidentally stopped. One disadvantage however is that some CD players are blocked from other functions when started with a continuous pulse.

NOTE B: Some of the older equipment, require additional relays or switching transistors to operate satisfactorily, contact your dealer for more information.

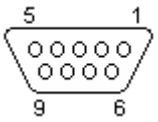
13.3.2 INTERFACE PIN-OUT WITH JUMPERS J12, J13, 14 AND J15 IN 'DIRECT' CONFIGURATION

The Start / Stop key is physically linked to two interface pins, so that while the key is pressed, a shortcircuit will appear between **pin 1** and **pin 2**. The Start / Stop LED (located close the key) can be driven from the interface (i.e. it can be controlled by connected equipment - external tally). The Start / Stop LED is physically linked to interface **pin 6** and **pin 7**.



(console internal view)

PIN	DESCRIPTION	DIRECTION
9	+ 6 Vdc source (with **Input A** selected)	**OUT**
8	GND - Ground	**/**
7	Cathode of START LED	**IN**
6	Anode of START LED	**IN**
5	+ 6 Vdc source (with **Input B** selected)	**OUT**
4	- 6 Vdc source	**OUT**
3	Remote PFL enable	**IN**
2	START key contact	**OUT**
1	START key contact	**OUT**



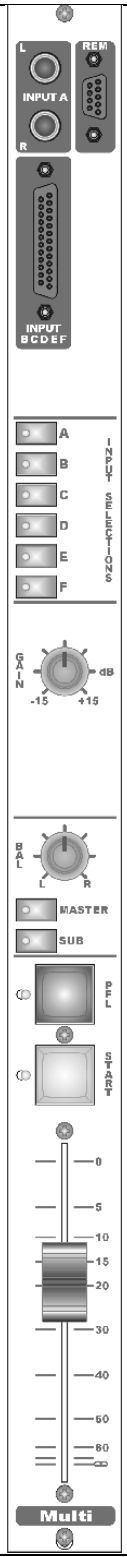
Remote start and stop operates with line input 2 (D-Type Input).
Remote start and stop operates with line input 1 (XLR input).
Jumper J3 selects which input is connected to the piece of equipment that needs to be controlled remotely. With J3 set over pins 1 and 2, the remotes will only operate. With
J3 set over pins 2 and 3, the remotes.
If J3 is not set, the remote start and stop will operate whether Input 1 or Input 2 are selected.

13.3.3 External PFL switch

When pin 3 is pulled high (i.e. fed with + 6 V) the channel will switch the PFL on.
With the external PFL it is possible to switch the channel to PFL automatically when the PLAY-button of the connected device is pressed. The device can be started with the start-output when the module is activated.

14 MULTI MODULE

14.1 INTRODUCTION



Each MULTI module has six switchable and/or summable stereo line inputs with optional three-band EQ. **Input A** through **F** come factory preset for **Line levels.**

The selected source (or the sum of the selected sources) is fed through a common **GAIN potentiometer** that provides a variable 30dB range from -15 to +15dB gain to match the connected source to the internal 0 dBu operating level.

The **Equaliser** (**available as an option – Ref to Section** Errore. L'origine riferimento non è stata trovata.) comprises three sections. The upper control provides H.F.(treble) boost and cut of +/-15dB at 13 kHz, and the lower control provides L.F. (bass) boost and cut of +/-15dB at 100 Hz. The centre knob provides a cut/boost control of +/- 15dB at 5 kHz. Set the cut/boost control of each section to the centre-detented position when not required.

The signal is then routed via a Balance control and two stereo routing switches to either the main stereo programme (Master) or the stereo subgroup (Sub).
There is a red LED inside each switch which will illuminate accordingly.

The pre-fade listening. **PFL** button mode allows pre-fade listening (post pan-pot) of the channel with the fader closed. When the PFL button is activated, the channel signal will be connected to the PFL output and to the meters circuitry (see also METERBRIDGE Chapter). Even when the channel is active, the PFL system is active. It always operates in the SINGLE Mode (i.e. only one PFL is active at once). The PFL function can be cancelled:

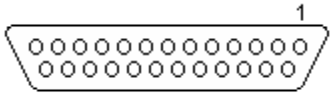
- by using the PFL RESET button on the MASTER Module
- by activating PFL on another module

A 9 pin D-Type plug remote connector provides the remote outputs (optocoupled or not) for the Start and Stop functions, controlled by START button. The remote Start/Stop operation can be jumper configured to be either momentary or latched (a feature that may be required for some types of equipment).

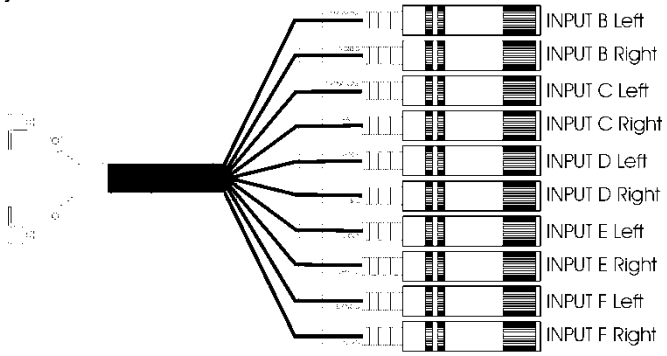
ALPS N-type 90° ultra smooth 100 mm sliders are provided on series.
On request, to notify at order, ALPS K series and **ALPS K/VCA** series sliders can be also fitted, the last ones controlling an internal high quality VCA circuitry. There is no audio going through the VCA faders. VCA faders do not therefore suffer from such severe noise and signal loss problems that conventional faders may have when wear and tear causes the resistive surface to deteriorate. The benefit is longer fader life, as the crackles and dropouts typical of the traditional audio faders are smoothed out.

14.2 AUDIO CONNECTOR PIN-OUT

Input A is electronically balanced on a pair of 1/4" Jack connector. The pin-out is the same as Stereo Module.
Inputs B-C-D-E-F (**Line level**) are electronically balanced on Sub D 25 pin connector.
Sub D connector pin-out is as follows:

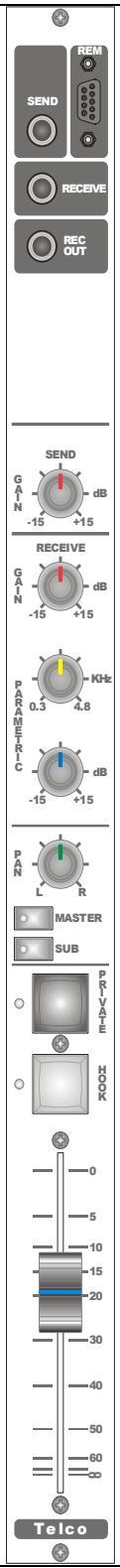


It is possible to make cables for connection to the Sub-D connector. In that case, metal caps for the Sub-D connector and cable with a separate screening should be used, as per the CE norms.
Another possibility for connecting the mixer unit is to make use of the specific ADAPTER available as an option from Axel Technology (see Chapter **Errore. L'origine riferimento non è stata trovata.**) The Adapter splits the Sub-D connector into 10 1/4" balanced (stereo) jacks:



15 TELCO MODULE

15.1 INTRODUCTION



The telco module interfaces an external telephone hybrid with the console. A separate hybrid for each Telco module will be required.

It has only one mono input (**Receive**), the other Jack connector being used for the mix minus output (**Send**) to the telephone hybrid. The mix minus signal is the programme output signal with the phone signal (caller's voice) removed. The SEND gain control adjusts in the +/- 15 dB range the level of *mix-minus* signal which is sent to the telephone caller via the external telephone hybrid, while the RECEIVE gain control adjusts in the +/- 15 dB range the level of the signal incoming from telephone caller via the external telephone hybrid.

The 'Hook' button becomes the Line Hook Remote Divert control for suitable hybrids via the remote connector.

A 'RING' **LED (next to the Hook button) is provided for signaling of incoming calls.**

It features two gain controls, PFL, Master and Sub output select, hybrid remote controls.

The engineer (or the presenter) can talk *off-air* with a caller (whilst the Main programme is being output) via its own microphone (connected to Mono module and routed as *TB to Studio*) or the *TB* microphone built-in into the Monitor module..

In addition, two relays in the PWS offer the option of driving external red light 'Call' indicators **in the Studio / Ctrl Room. Two jumpers on the module board select which relay (Relay 1 or Relay 2) will be activated by incoming call signal (ref to par. 12.2 for jumper settings).**

The PAN control determines the position of the signal within the stereo mix image. Rotation fully anticlockwise feeds the signal solely to the Left mix bus, while rotation clockwise sweeps the image to the Right mix bus.
The centre applies 0 dB of gain to both L & R signals.

ALPS N-type 90° ultra smooth 100 mm sliders are provided on series.
The scale shows the attenuation. Normal operating position is at the top '0' mark, providing overall 0 dB of gain.
On request, to notify at order, ALPS K series and **K/VCA** series sliders can be also fitted, the last ones controlling the internal high quality VCA circuity. There is no audio going through the VCA faders. VCA faders do not therefore suffer from such severe noise and signal loss problems that conventional faders may have when wear and tear causes the resistive surface to deteriorate. The benefit is longer fader life, as the crackles and dropouts typical of the traditional audio faders are smoothed out.

15.2 REMOTE INTERFACE CONNECTION

The 9 pin D-Type plug remote connector provides the inputs and outputs for the following functions:

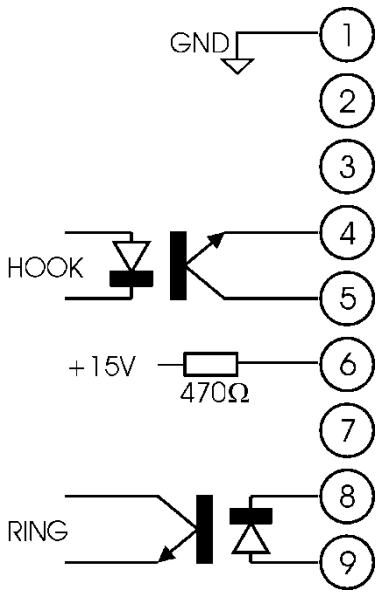
- Remote control for line 'hooking' on the external telephone hybrid
- External control for RING LED (i.e. RING LED on the Telco module can be driven by a suitable external command)

A 15 VDC current-limited output is also provided for use with the remote control outputs.

For each input you can select from 16 types of operation for the equipment connected. Whereas previously the only choice w as pulse or continuous contacts, now equipmentspecific operation can also be selected. This concerns equipment w hich, in addition to standard operation, also has special functions or has to be operated in a non-standard w ay. As standard, a choice can be made betw een continuous or pulse contacts (short or long pulses), indication of internal or external tally on the ON and OFF buttons, giving a start pulse again by pressing the ON button (Restart) and activating the CUE function by putting the equipment w ith sw itched off module into the 'PLAY' state (Remote Cue).
Equipment control patterns available:

15.2.1 REMOTE INTERFACE PIN-OUT

SUB D 9P FEMALE



(console internal view)

PIN	DESCRIPTION	DIRECTION
1	Ground GND	/
2	Not Connected	/
3	Not Connected	/
4	HOOK command - emitter of photocoupler	OUT
5	HOOK command - collector of photocoupler	OUT
6	+ 15 VDC	OUT
7	Not Connected	/
8	External RING control - cathode of photocoupler	IN
9	External RING control - anode of photocoupler	IN

15.2.2 DESCRIPTION

Pins 8 and 9 are used to make RING LED on the Telco module panel blinking when a call is coming in (call signalling may be also achieved via one or two 'red light' lamps connected to the two Power Supply relays – see par. 15.3).
The remote interface photocoupler (pin 9 = Anode and pin 8 = Cathode) must be driven by an external suitable command generated by external telephone hybrid. Typical current allowed: 5 mA (max 10 mA). Max voltage allowed: 15 V.

A + 15 VDC is provided on Pin 6 via a **470 Ohm resistor.**

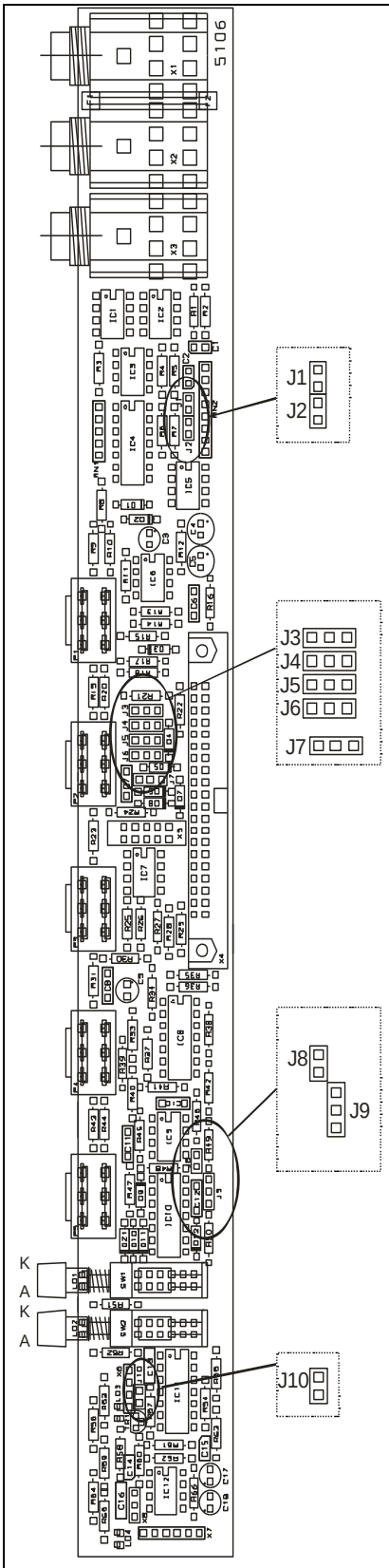
The Oxygen 5's *Hook* optoinsulator closes whenever 'Hook' button is pressed. Typical current allowed: max 10 mA. Max voltage allowed: 15 V.

It may be necessary to consult the hybrid manufacturer's user manual in order to control its functions.

OXYGEN 5 Telco remote interface has been designed for **direct connection** to **BOXTEL** and **MACROTEL 5 / 7 / 9** by **Axel Technology**.

In particular, a regular, not crossed **Pin – to – Pin 9 pole cable** featuring **standard RS232** connectors (i.e 9 pin serial connection computer type) is required for **BOXTEL** connection.

15.3 MODULE OPTIONS AND JUMPER SETTINGS



The TELEPHONE module can be configured in different ways depending on the internal jumper options. The Jumpers are located closed to Hook switch, on the internal module PCB.

When the **RELAY 1** jumper **(J 1)** is closed, relay switch #1 inside the Power Supply closes when a telephone call comes (ring). The relay may be used to control an On Air Lamp (such as MR. LIGHT by Axel Technology).

When the **RELAY 2** jumper **(J 2)** is closed, relay switch #2 inside the Power Supply closes when a telephone call comes (ring). The relay may be used to control an On Air Lamp (such as MR. LIGHT by Axel Technology).

NOTE: Due to their mechanical operation, relays must only deal with 'bi-stable' and very low frequency ring pulses
Please check whether Yr telephone hybrid is suitbale for this aim.

JUMPER SET	FUNCTION
J1	RING IMPULSE TO RELAY-2
J2	RING IMPULSE TO RELAY-1

15.4 HOOK SWITCH AND RING LED

The Hook switch remotely controls the Line hooking on suitable telephone hybrids (such as Macrotel 5,7,9 and BoxTel by Axel Technology). This switch connects / disconnects the hybrid from the telephone line and **mutes the channel** (ie. when Hook is depressed, Receive input is automatically muted).

The HOOK LED switchs on only with telephone line properly connected.

Ring LED blinks when a call (ring) is coming. This requires a suitable control by the external telephone hybrid (such as Macrotel 5,7,9 and BoxTel by Axel Technology). Please refer to Telco Remote Interface - par. 0.

If the HOOK switch is pressed with an external hybrid properly connected, the red HOOK LED will illuminate and the caller is connected to the Telco module but not yet heard in the broadcast because the fader is still down.
By opening the fader, the Telco module will be activated and the signal will enter the program (see also MASTER/SUB switches par. 15.5 and PFL PRIVATE button par. 15.6)

15.5 MASTER-SUB ROUTING SWITCHES

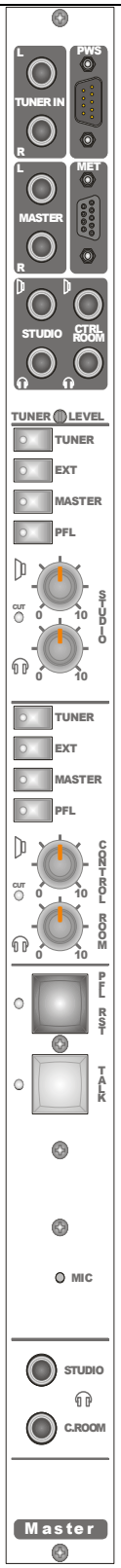
The input channel signal may be routed to the main Stereo MIX (L-R) and/or to the SUB bus by pressing the respective switches.

There is a red LED inside each switch which will illuminate accordingly.

The Sub mix can be mixed into the main output mixbus (Master) (see MASTER routing switcher on the Sub module). This is a convenient way to use the SUB assigment switch as a subgroup system, creating new possibilities in the Oxygen 5 console.

15.6 MASTER MODULE

15.7 INTRODUCTION



Master output (stereo) is electronically balanced on female Jack at 0 dBm. It outputs sum of all sources connected to MASTER bus.
TUNER IN input allows to connect to the mixer an external radio receiver to monitor the aired program. Tuner level can be adjusted in the ±6 dB range through the dedicated trimmer (TUNER LEVEL) .

PWS interface is dedicated to connection to Oxygen 5 Power Supply. MET interface is dedicated to connection to VU METER bridge

STUDIO sockets are dedicated to connection to STUDIO speakers (top connector, output level 0 dBm) and to STUDIO headphones (bottom connector). Respective rotative controls are located in the STUDIO control section (see).

CONTROL ROOM sockets are dedicated to coneection to C.ROOM speakers (top connector, output level 0 dBm) and to C.ROOM headphones (bottom connector). Respective rotative controls are located in the CONTROL ROOM control section (see).

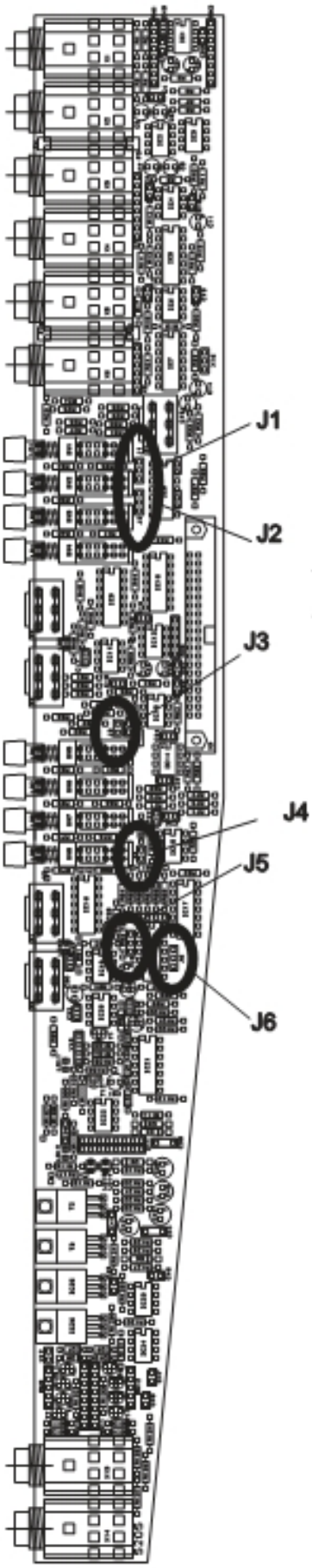
In the STUDIO section, 4 switches allow selection of one (or more) of the four Tuner, Master, Ext(ernal)and PFL signals as the Studio source to be listened to.
PFL switch allows the normal monitor source to be interrupted and the PFL signal monitored in its place.
In particular, when the PFL button is pressed (Red light illuminated) but no PFL signal comes from the input modules, the Studio outputs still reproduce Tuner / Master / Ext signals. You may regard this as the PFL routing circuit being armed but not active.
To make it active, the PFL must be engaged in at least one of the input modules.
Two rotary controls allow the levels to be separately adjusted on the Headphones ouput and on the Speaker output.
CUT LED is lit whenever the mute function (applied to Studio speakers only) is active (ref to MONO Module settings). For normal speaker operation the mute LED must not be lit.
In the CONTROL ROOM section, 4 switches allow selection of one (or more) of the four Tuner, Master, Ext(ernal)and PFL signals as the Control Room source to be listened to.
PFL switch allows the normal monitor source to be interrupted and the PFL signal monitored in its place.
In particular, when the PFL button is pressed (Red light illuminated) but no PFL signal comes from the input modules, the Ctrl Room outputs still reproduce Tuner / Master / Ext signals. You may regard this as the PFL routing circuit being armed but not active. To make it active, the PFL must be engaged in at least one of the input modules.
Two rotary controls allow the levels to be separately adjusted on the Headphones ouput and on the Speaker output.
CUT LED is lit whenever the mute function (applied to Ctrl Room speakers only) is active (ref to MONO Module settings). For normal speaker operation the mute LED must not be lit.

PFL RESET (RST) button cancel any active PFL on source modules .

TALK BACK (TB) button allows people in the Control Room to transmit talkback to the Studio Speakers and Studio headhones and viceversa .
- talkback signal toward CRoom speakers / headphones comes from all MONO modules with ‘TB to Croom’ option enabled

- talkback signal toward Studio speakers / headphones comes from all MONO modules with ‘TB to Studio’ option enabled as well as from the

Master’s built-in microphone if enabled (see Jumper).



STANDARD CONFIGURATION for 2 METER Meterbridge

J1 TU-R Not fitted

J2 TU-L Not Fitted

J5 VU-L

J6 VU-R

2 VU METER

MST/PFL

with 'VU' setting on local VUMeter board

J3 - Enable of Master module built-in microphone for Talk Back to Studio

J4 - MUTE CONTROL ROOM speakers with TALK BACK button pressed

STANDARD CONFIGURATION for 4 METER Meterbridge showing MASTER (on the right hand) and PFL (on the left)

J1 TU-R

J2 TU-L

J5 VU-L

J6 VU-R

PFL MST

with 'VU' setting on local VUMeter board | with 'TU' setting on local VUMeter board

STANDARD CONFIGURATION for 4 METER Meterbridge showing MASTER/ PFL (switched - on the right) and TUNER (on the left)

J1 TU-R

J2 TU-L

J5 VU-L

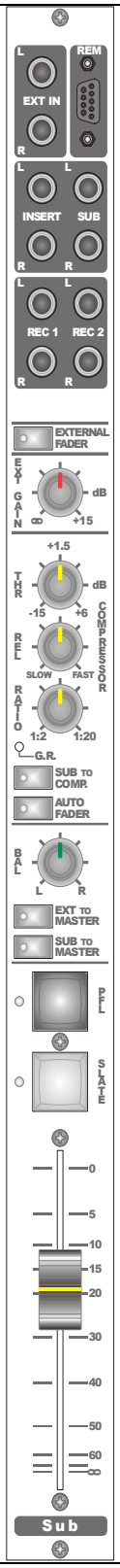
J6 VU-R

TUNER MST/PFL

with 'TU' setting on local VUMeter board | with 'VU' setting on local VUMeter board

16 SUB MODULE

16.1 INTRODUCTION



The Sub output (stereo) is electronically balanced on female Jack at 0 dBm.
It outputs the sum of all sources connected to SUB bus.

The INSERT sockets allow to insert an external stereo equipment (like sound/effect processors) between the audio chain inside and the SUB output buffer. When no connector is inserted, an internal switch provides to short-circuit input and output pins.

REMOTE interface is dedicated for the connection to DJ Console by AXEL Technology. The DJ CONSOLE, normally installed in the studio, permits to the talent to remotely switch On/Off his microphone, to enable TalkBack to Control Room and to fade out background music (manual 'talk-over' function). The DJ CONSOLE is available as an option -see relevant Chapter.

EXT IN represents an additional input (at line level) for the console. signal.The Extrnal signal, faded by the Ext Gain control, can be sent to the Master module output (EXT to MASTER button) or listened in the Control Room / Studio (see EXT source keys in the associated sections on the Master module).

REC OUT sockets provide Sub or Master output (depending on the internal jumper J1, J2,J3, J4 configuration).
The SUB module features an high quality Compressor section which is used for AUTO FADER function (music is automatically faded depending on the level of a microphone signal - see AUTO-FADER switch) or to keep controlled SUB OUTPUT itself (SUB to COMP selection).

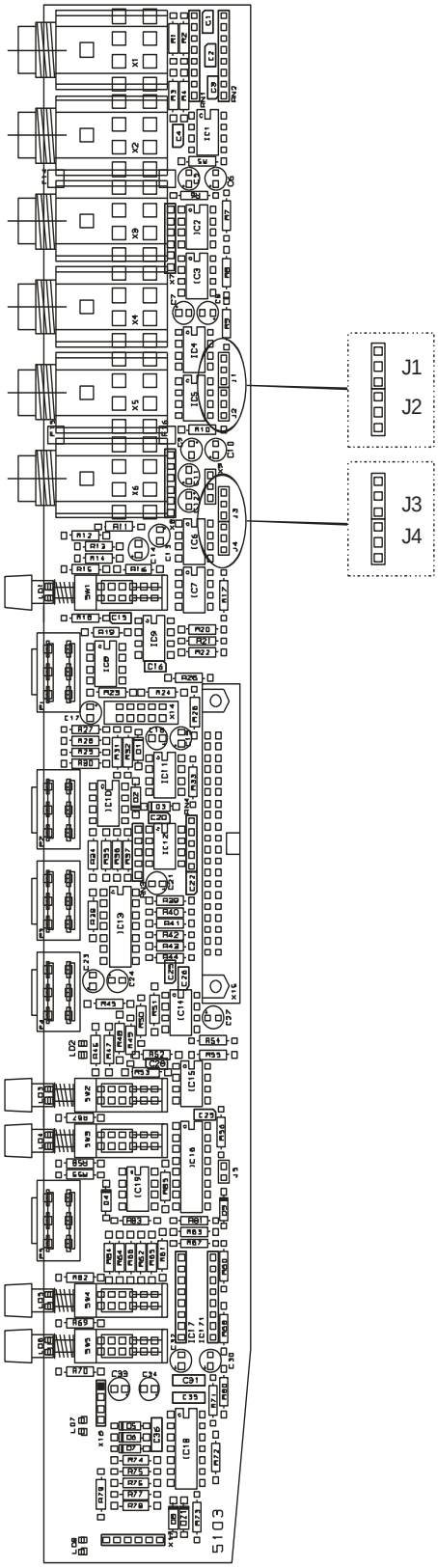
· THR (THRESHOLD) sets the threshold intervention level of compressor.
· REL (RELEASE) sets the release time of compressor: the higher is the value (max 10), the longer is the time needed to come back to the former audio level).
· RATIO sets the ratio of the compression: the higher is the value (max 1:20), the lower will be the audio compressed level.

A blue led near the Ratio knob shows the compressor operation: higher is the led brightness, higher is the compression level.
SUB to MASTER button allows the Sub signal to mixed into the Master bus. This way, the SUB module can be used to create pre-mix of selected sources (for example microphones) and then route that mix to Master output.
The pre-fade listening (PFL) button mode allows pre-fade listening (post pan-pot) of the channel with the fader closed. It always operates in the SINGLE Mode (i.e. only one PFL is active at once). PFL function can be cancelled:

- by using the PFL RESET button on the MASTER Module
- by activating PFL on another module

SLATE button allows to send to the Sub output any source connected to TALKBACK to STUDIO bus (either external micrphones or the small microphone integrated into Master module). Slate function is proven useful to add 'voice announcements' at the beginning of recorded programs.
A dedicated jumper (J5) mutes Control Room speakers every time Slate button is pressed.
The SUB slider controls the amount of SUB signal appearing at the SUB output socket

16.2 MODULE OPTIONS AND JUMPER SETTINGS



There are four Jumpers on the Monitor module PCB.

J1 and **J2** are situated on the top of the module (near to the Tuner potentiometer)

J3 is situated near to the 'flat cable' connector (behind the Ctrl Room speaker potentiometer)

J4 is situated behind the Control Room SUB switch.

The jumper settings are given below:

The **J1 and J2** jumper settings allow you to configure each of the left and right outputs of the back-panel STUDIO outputs to either Line level (i.e. suitable for an external amplifier) or to headphone level (ref par. 0).

J1-J2	SPEAKER SIGNAL ON STUDIO OUT
J1-J2	HEADPHONES SIGNAL ON STUDIO OUT

When closed, the **TB MIC** jumper (**J3**) enables the console built-in microphone for TalkBack to Studio communications.

J3	MONITOR MIC ENABLE

When the jumper **J4** is closed, the TalkBack to Studio button is associated to the cut-off of the **C.ROOM SPEAKER** output on the MONITOR module.

J4	AUTOMATIC C.ROOM SPEAKER MUTE WHEN TB IS ENABLED

The 9 pin D-Type plug remote connector provides the inputs and outputs for the following functions:

- Remote control for On/Off status of MONO Modules with J8 jumper properly set (EXT position)
- Remote activation of Talk Back circuit
- Remote control of level of all sources connecte to Sub module (duck)
- Signalling of ON status on controlled MONO modules

The SUB Remote interface is especially designed for the connection to DJ CONSOLE by Axel Technology - see next section

REMOTE ON / OFF CONTROL

To bring to ON status all controlled modules, feed pin 7 of the interface with +6V voltage. This control is managed in a lateched mode, so that a momentary closing to + 6 Vdc activates ON and momentary closing again cancels the ON status.

TALK BACK ACTIVATION

Momentary short circuit of Pin 2 to + 6 Vdc (Pin6) activates Talk Back circuitry on the mixing console

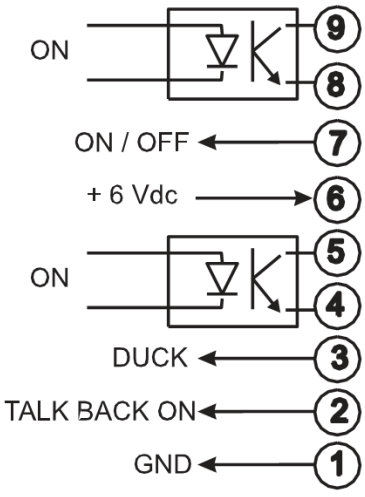
DUCK

By feeding Pin 3 with a 0 ¸ 6 Vdc Voltage, you can control the Sub module VCA circuitry (NOTE: EXT(ERNAL) FADER button must ber pressed on the Sub Module)

A +/- 6 VDC +/- 50 mV current-limited output is provided on Pin 6 for use with the remote control inputs.

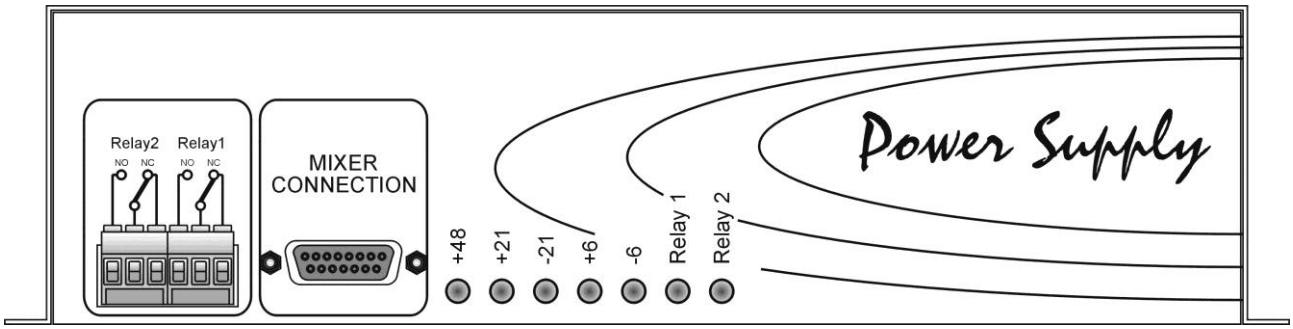
See DJ CONSOLE chapter for an actual schematic of these controls

PIN	DESCRIPTION	DIRECTION
9	COLLECTOR OF 'ON' PHOTOTRANSISTOR	IN
8	EMITTER OF 'ON' PHOTOTRANSISTOR	OUT
7	ON/OFF CONTROL	IN
6	+ 6 VDC	OUT
5	COLLECTOR OF 'ON' PHOTOTRANSISTOR	IN
4	EMITTER OF 'ON' PHOTOTRANSISTOR	OUT
3	DUCK	IN
2	TALK BACK ACTIVATION	IN
1	GND	/

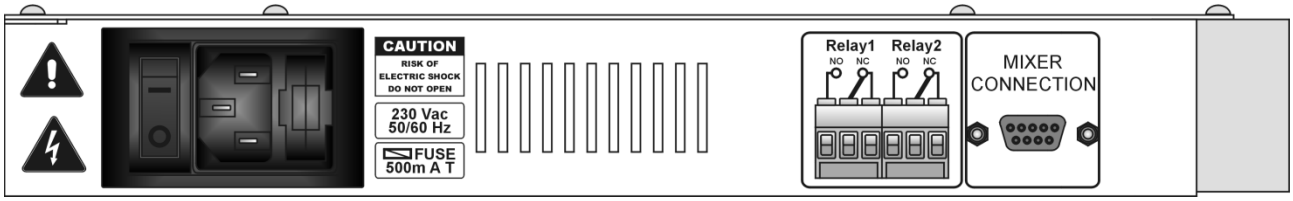


17 POWER SUPPLY

17.1 FRONT VIEW



17.2 REAR VIEW



17.3 DESCRIPTION

The Oxygen 5 Power Supply (PWS) consists of a power transformer, selectable for 115 VAC or 230 VAC operation, rectifiers, filter capacitors and voltage regulators on a circuit board.
The power supply is protected by a replaceable AC mains fuse located in the power entry socket plus internal fuses on the transformer's secondary outputs and selfprotected current-limiting regulators.

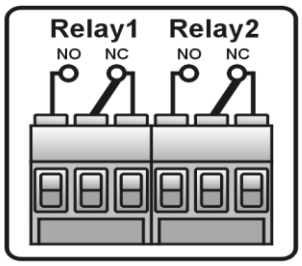
The power supply has three output voltages:

- +/-15 volts for the audio circuitry
- +48 volts phantom for condenser microphones.

Three LEDs on the front of the unit indicate whether the power to the three voltage rails is being supplied correctly. if one of the LED's fails, then there is a problem with the PWS unit or the console. Ref to par. 17.7

The power supply should be installed where there is **adequate ventilation** for heat to circulate from the rear and the side of the unit. In the event of PWS rack-mounting, other equipment in the rack which is known to produce a significant amount of heat should be mounted not closed to the unit (i.e. some space should be provided between these and the Oxygen 5 Power Supply).

17.4 PWS RELAYS



The power supply features two built-in relays separately controlled by the MONO and TELCO modules.
They are designed to illuminate external Studio and/or Control Room Warning/On Air lights (such as Mr Light by Axel Technology) showing that one or more microphones are 'on air'.

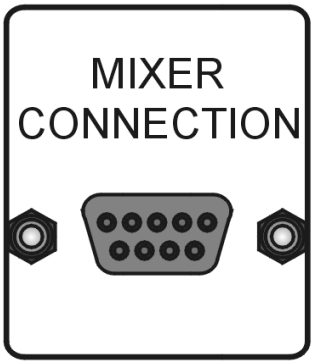
Relays are intended for **low voltage** electric loads (e.g. 24 V), **up to 10 A**.

FOR SAFETY AND TO PROTECT THE OPERATOR FROM HIGH VOLTAGE SHOCK, NEVER CONNECT AC MAINS TO PWS RELAYS.

Use relays to directly control low-voltage lamps or to drive 220 / 115 Vac Lamps via external relays or optocouplers.

The Oxygen 5's PWS relays feature either Normally Open or Normally Closed contacts. Two LEDs on the front of the unit indicate whether the relays are closed.

17.5 MIXER CONNECTION

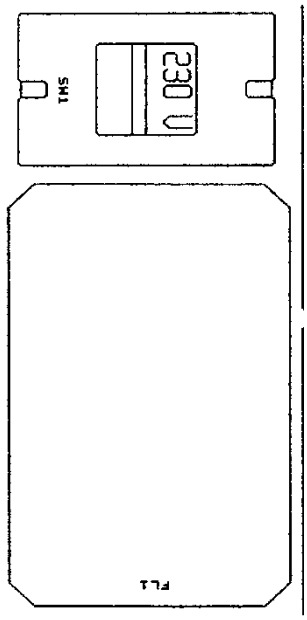


A cable with a 9 pins subD plug on each end comes with the console. It is used to connect the power supply to the mixer.

Plug the cable into the power supply MIXER CONNECTION socket. Press the plug into the socket, and screw on the locking ring to hold it firmly in place. Plug and secure the other end into the console PWS socket on *Monitor* module.

Turning the Console On or Off: First check that the mains and DC leads are correctly plugged in and secured. Turn on the power supply using its rear panel mains switch. The console must be connected to the power supply before turning it on. To avoid loud pops in the speakers make sure that the connected power amplifiers are turned off before switching the console on or off.

17.6 MAIN AC VOLTAGE SETTINGS



Before connecting the Oxygen 5 to mains power, determine the actual mains voltage and confirm that the Oxygen 5 has been configured correctly. As could be expected, an incorrect mains configuration could seriously damage the unit.

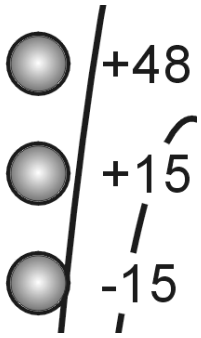
If the unit is to be used with a mains voltage different to that for which the unit is supplied, set the **voltage change-over switch**, which is placed inside the box, closed to the AC socket and the AC filter.

The power supply socket has an integral fuse drawer containing the AC power fuse and a spare, both of the same value, rated at 500 mA T for 220/230 V AC and for 110/115 V AC tensions.

Make sure that the IEC mains plug is pressed fully into the MAINS INPUT socket.

WARNING: The power must be switched off at the supply or the power lead must be disconnected before attempting to remove the panels or cover. Removal of the panels and cover can expose dangerous voltages.

17.7 PWS TROUBLESHOOTING



The correct operation of power supply is showed by the 3 LEDs glowing on the front panel. If the console doesn't work properly, please check the power connection cable.

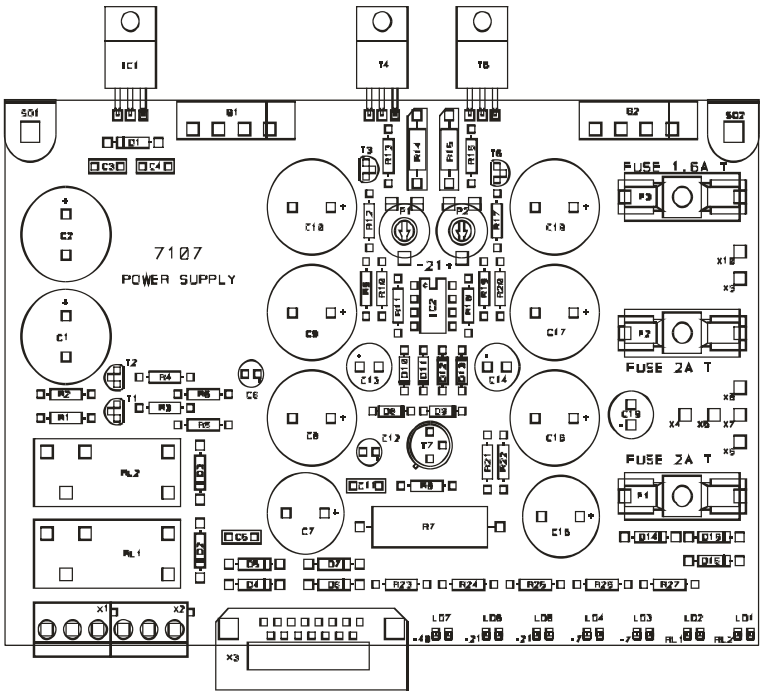
If the neon lamp inside the **Main switch is off** (and therefore all LEDs on the power supply front panel are off), please check the Main Fuse next to the mains cord socket (500 mAT).

To do this:

- Switch the ON/OFF switch to the OFF position
- Remove the mains cord from the connector
- Use a small screwdriver to extract the fuse carrier drawer from its location closed to the connector
- Check the fuse and replace if necessary;
- In the event of repeated failure of the mains fuse consult the Axel Technology tecnical support or Yr local dealer

.
If one or more LED on the panel of power supply are switched off (and therefore console doesn't work properly) please execute the following steps:

- disconnect the console from the PWS
- switch the PWS on
- verify that every LED on the front panel glow (except Relay 1 and 2)



If one or more LEDs are still switched off:

- open the PWS cover
- verify the **integrity of the 2 fuses on the PCB** and replace the burned ones (fuses are rated to 1.6 A T)
- close up the cover
- connect the AC Mains cord only
- switch on the power supply again and check whether all LEDs glow. Note: if the problem still persists, please contact Axel Technology technical department
- switch the power supply off
- connect the mixing console to the PWS
- switch the PWS on
- Verify the correct mixing console operation

18 METERBRIDGE

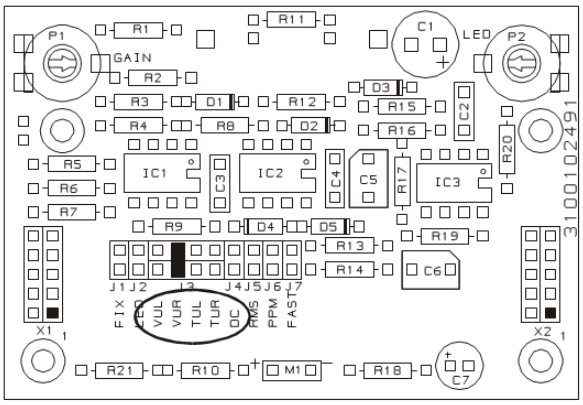
18.1 DESCRIPTION

The Oxygen 5 mixer is fitted with VU / PPM meters.

VU meters respond to an average signal level, whereas PPMs respond to peak changes (The PEAK LEDs are activated by the shortest transient peak, but remain 'on' long enough to provide easy recognition).

If a 1kHz sinusoidal signal is input to the mixer and the amplitude adjusted such that the level at the master output is 0 dBm, the meters will read 0 VU (the orange LED will glow).

The VU meters are factory-calibrated and no further user adjustement is allowed. PPM reading may be disabled (ref to next Section).



A short cable with a 9 pins subD plug on each end (male and female) comes with the console. It is used to connect the meterbridge to the mixer.

The LEFT pair of meters display PFL stereo signal, while the RIGHT pair display the Master signal.

The LEFT pair of meters can be also altered to show any combination of the Master output, the Sub output, Tuner input or whatever is selected on the **Control Room** section of **Monitor** module when the "SELECTION TO METER" button is pressed.

For example, if SELECTION TO METER is selected and the CONTROL ROOM has SUB selected, then the meters will display the SUB signal. Of course, meters will also display the PFL signal, if PFL button is selected (see par. **Errore. L'origine riferimento non è stata trovata.**)

The Meter comes from the factory with Meters ballistics set on 'RMS' mode. However, on request, two additional modes are available: PPM and a PPM sub-mode, called PPM Fast, having faster response on the peaks.
Note that, even if RMS, PPM and PPM FAST jumpers are available on Meter board for relevant setting, switching from a ballistic mode to the other ALWAYS requires trimmers on the Meter board to be re-tuned.

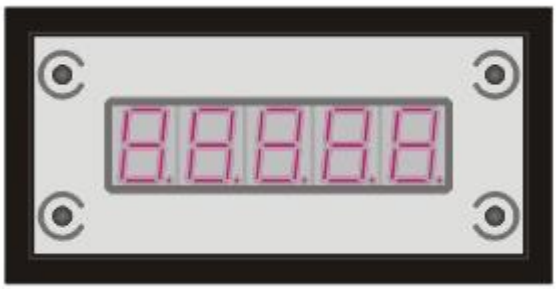
Please contact Yr local Axel Technology dealer for support on that

18.2 METERBRIDGE SETTING

PPM reading can be disabled via the **Jumper J5** situated on the LED board inside the meterhood, behind LEFT /MONITOR scale.

VU (average) reading can never be disabled.
For Jumper setting ref. to layout scheme displayed on the next page:

18.3 TIMER



By request, up to two Timer modules are available to be installed on the meterbridge. The Timer feature the time count up showing minutes, seconds and tenth of seconds if time duration does not exceed 1 hour and hours, minutes and seconds if time duration exceeds 1 hour. In particular, you can associate, by jumper, timer start toopening of slider on Mono modules and to the Start/Stop function of the Stereo modules.

19 DJ CONSOLE

The DJ CONSOLE is available as an option. It is to be installed in the studio and permits to the talent to remotely switch On/Off his microphone, to enable TalkBack to Control Room and to fade out background music (manual 'talk-over' function). In particular, the Dj Console's ONAIR key will turn On/Off all MONO modules with J8 jumper set to 'EXT' position (see MONO module Chapter).

Furthermore, Dj Console's SLIDER will fade down / up all audio source routed to SUB output (having pressed EXT FADER and SUBtoMASTER buttons on the SUB module).

To connect and enable DJ Console on the Oxygen 5 mixing console, please follow these steps:

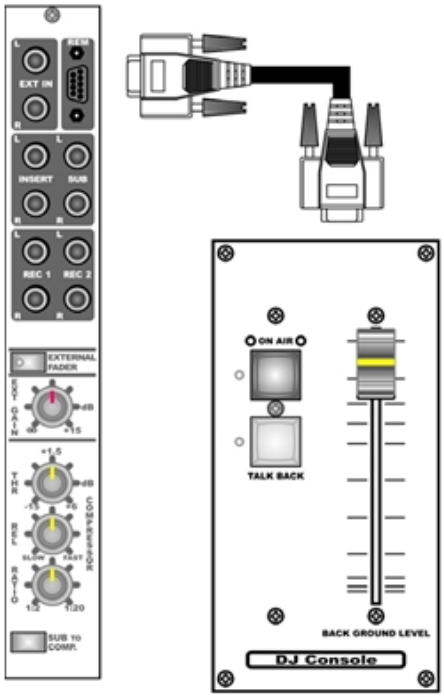
1) connect the Dj Console to Sub module - Remote Interface via a 9 pin to 9 pin cable (see picture)
2) Set the Jumper J8 to the 'EXT' position on the Mono modules to be controlled by the Dj Console (the Talent's module at least!)

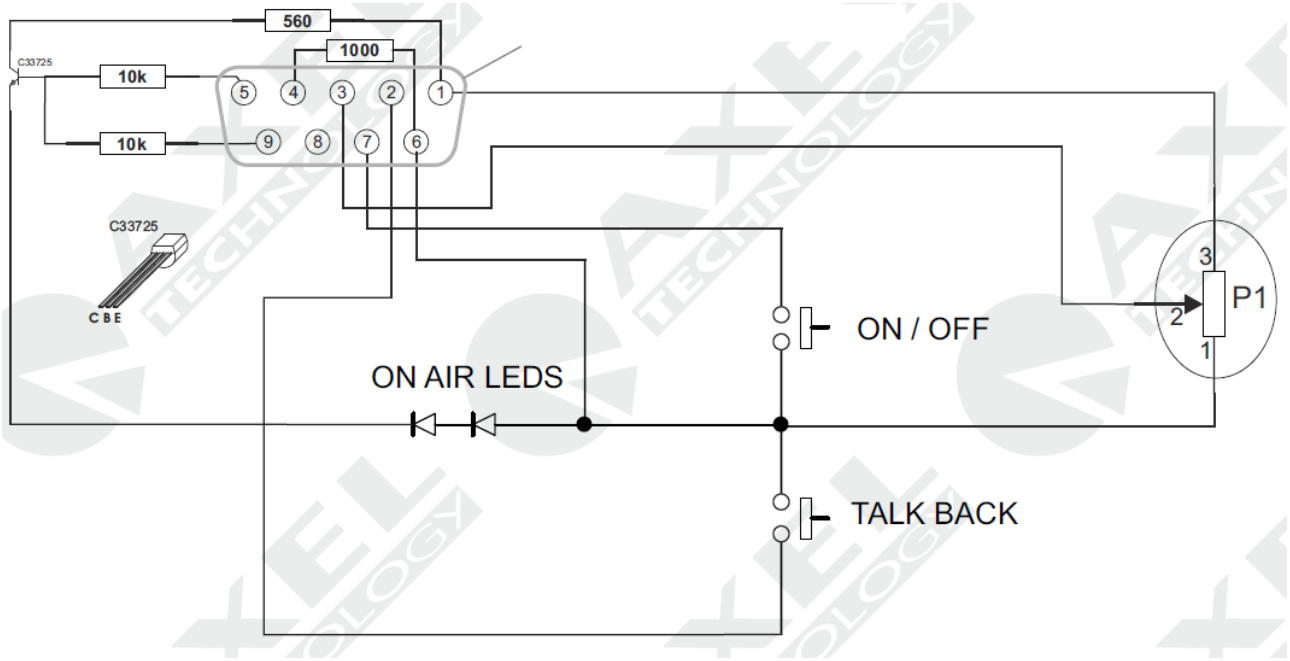
3) Press the 'Master' key on the Mono modules to be controlled by the Dj Console

4) Press the 'Sub' key output on the Stereo modules processing the musical program to be faded out

5) Press 'EXT FADER' button on the SUB module

6) Press 'SUB to MASTER' button on the SUB module




560
1000
C33725
10k
10k
5
4
3
2
1
9
8
7
6
C33725
C B E
ON / OFF
ON AIR LEDS
TALK BACK
3
2
1
P1

20 TECHNICAL APPENDIX

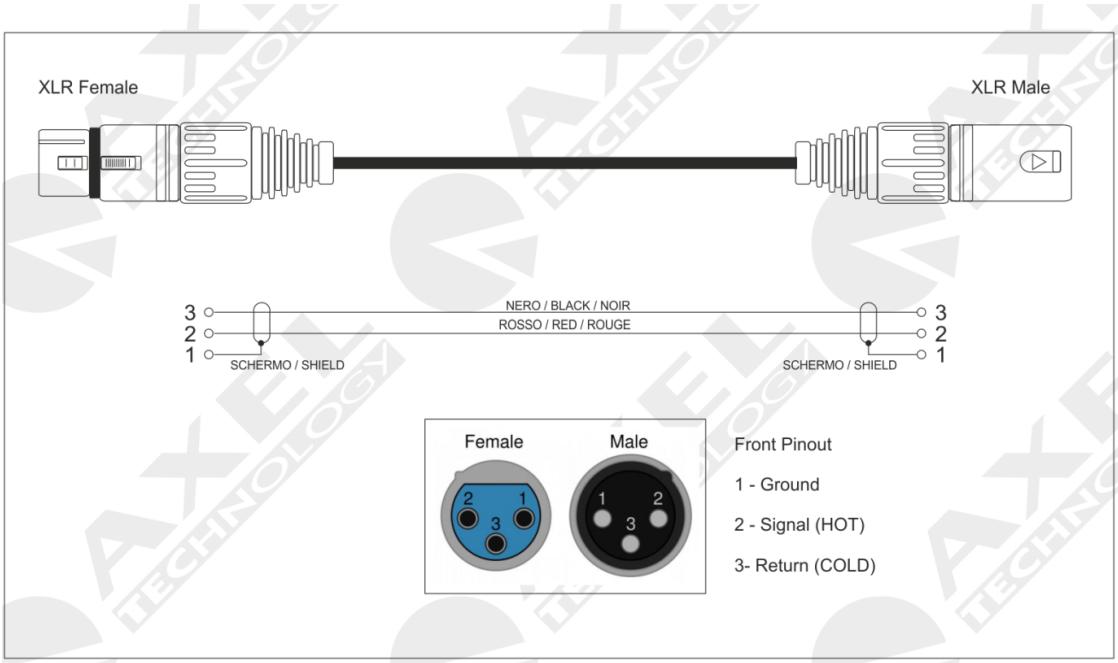
This section provides all the technical explanations, and the connection pin outs to and from the Oxygen 5. Always refer to this technical appendix for connections and connection procedures. In case of differences between the documentation below and the hardware device please contact Axel Technology at the numbers and e-mail addresses shown at the end of this manual. Our technical and assistance department will be pleased to help you!

20.1 APPENDIX A – AUDIO CONNECTIONS

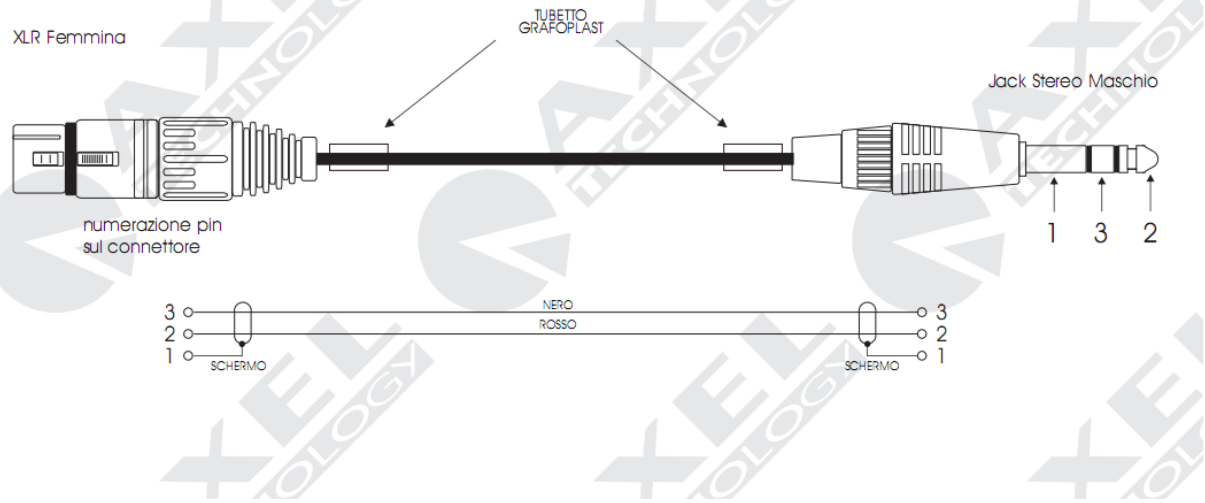
Matching the Console to Destination Equipment**.** The console produces a standard output level of 0dBu for a meter reading of '0'. It can produce a maximum of +20 dBm and is therefore well suited to driving equipment operating at nominal 0dBm or +4dBm while providing plenty of headroom.

20.2 APPENDIX B – BALANCED AUDIO CONNECTION XLR I/O

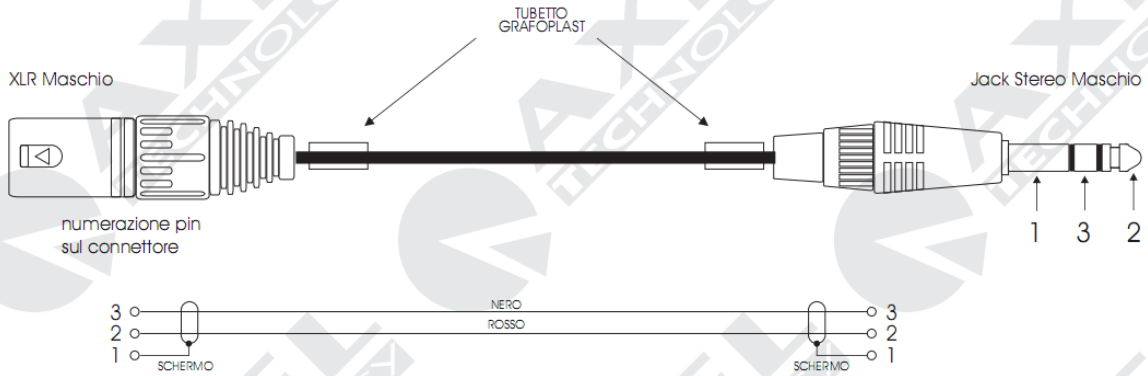
Balanced Audio connection diagram with balanced XLR for **Analogue** audio **input** and **output** (Left+Right).



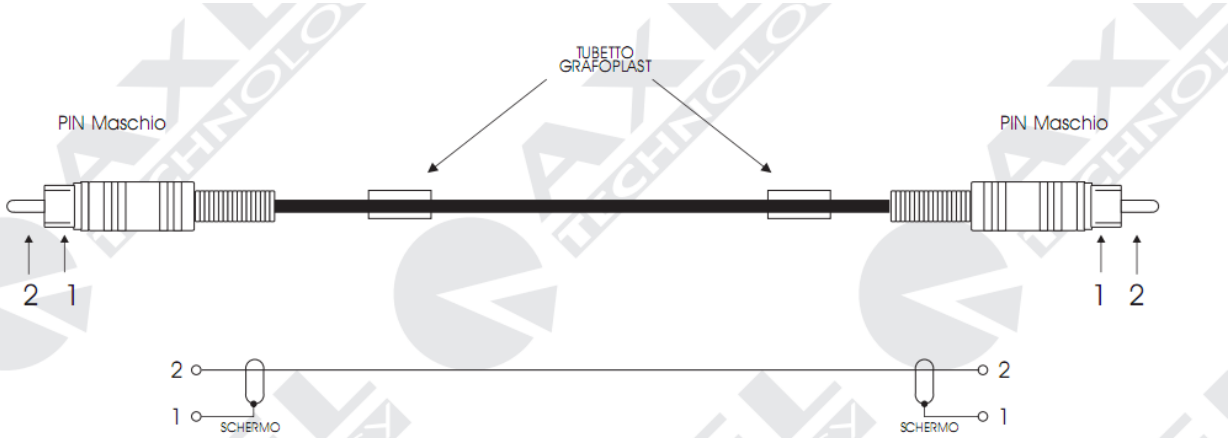
20.3 APPENDIX C – BALANCED AUDIO CONNECTION XLR F – JACK



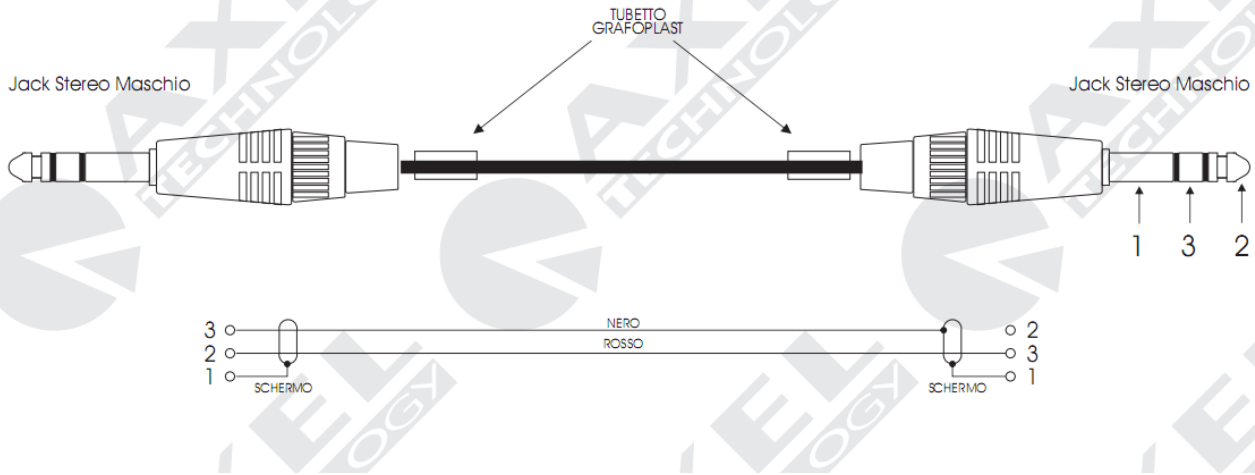
20.4 APPENDIX D – BALANCED AUDIO CONNECTION XLR M – JACK



20.5 APPENDIX E – UNBALANCED AUDIO CONNECTION PIN (RCA) AUDIO

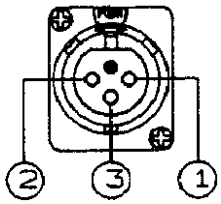


20.6 APPENDIX F – BALANCED AUDIO CONNECTION JACK - JACK



20.7 APPENDIX F – MODULE CONNECTION

XLR FEMALE SOCKET (Microphone input)



Pin	
1	Ground
2	In-phase (Hot)
3	Out-of-phase (Cold)

Short-circuit Pin 1 and 3 for unbalanced connections

21 TECHNICAL SPECIFICATIONS

STEREO MODULE	CONFIGURATION	BAL.	CONNECTOR	CONTROL
INPUT A	Stereo	El. Bal.	jack 1/4”	
INPUT A nominal level	0 dBm (LINE)			+/-15dB gain control
INPUT A impedance	10 kOhm			
INPUT B	Stereo		jack 1/4”	
INPUT B levels (jumper sel)	0 dBm (LINE)	El. Bal		+/-15dB gain control
	Phono (RIAA)	Unbal		+/-15dB gain control
INPUT B line impedance	10 kOhm			

MONO MODULE	CONFIGURATION	BAL.	CONNECTOR	CONTROL
INPUT A	Mono	El. Bal.	XLR	
INPUT A adj level range	- 70 dB to - 23 dB (MICRO level)			+/-15dB gain control
INPUT A insert level	0 dBm	Unbal.	jack 1/4”	
INPUT A impedance	> 1,5 kOhm			
INPUT B	Mono	El. Bal.	Jack 1/4”	
INPUT A nominal level	0 dBm (LINE)			+/-15dB gain control
INPUT B impedance	10 kOhm			

TELCO MODULE	CONFIGURATION	BAL.	CONNECTOR	CONTROL
SEND Output	Mono	El. Bal.	Jack 1/4”	
SEND level	0 dBm			+/-15dB gain control
RECEIVE Input	Mono	El. Bal.	Jack 1/4”	
RECEIVE level	0 dBm			+/-15dB gain control

MASTER/SUB MODULE	CONFIGURATION	BAL.	CONNECTOR	CONTROL
SUB Output	Stereo	El. Bal.	Jack 1/4”	
Nominal SUB Output Level	0 dBu (LINE)			
Max SUB Output level	+ 20,5 dBm (25 Vpp)			
SUB Output Impedance	50 Ohm			
Noise (DIN Audio)	≤ - 89 dBm			
Crosstalk L/R	< - 60 dB @ 1 kHz			
THD+N	< - 73 dB @ 1 kHz			
Frequency response	20 Hz to 20 kHz (- 0.2 dB)			
MASTER OUTPUT	**CONFIGURATION**	**BAL.**	**CONNECTOR**	**CONTROL**
MST Cfg / Out Level	Stereo / 0 dBu (Line)	El. Bal.	Jack 1/4”	
Max MST output level	+ 20,5 dBm (25 Vpp)			
MST output Impedance	50 Ohm			
Noise (DIN Audio)	≤ - 87 dBm			
Crosstalk L/R	< - 60 dB @ 1 kHz			
THD+N	< - 74 dB @ 1 kHz			
Frequency response	20 Hz to 20 kHz (- 0.5 dB)			
REC1 – REC2 OUTPUT	Stereo	El. Bal.	Jack 1/4”	-inf to + 15 dBm

MONITOR MODULE	CONFIGURATION	BAL.	CONNECTOR	CONTROL
TUNER IN	Stereo Line	El. Bal.	Jack 1/4”	-15 to +15 dB gain
STUDIO Output	Spk - Stereo Line	Unbal.	Jack 1/4”	-inf to +6 dBm
	Phones - Stereo Line	Unbal.	Jack 1/4”	0 to 24 Vpp (20 dBm)
CTRL ROOM Output	Spk - Stereo Line	Unbal.	Jack 1/4”	-inf to +6 dBm
	Phones - Stereo Line	Unbal.	Jack 1/4”	0 to 24 Vpp (20 dBm)

22 WARRANTY

The manufacturer offers a 1-year ex works warranty.
Do not open the equipment. The warranty shall be voided if any of the warranty seals are broken.
The manufacturer shall not be liable for damage of any kind deriving from or in relation to incorrect use of the product.

23 WEEE Directive – Informativa RAEE

In line with EU Directive 2002/96/EC for waste electrical and electronic equipment (WEEE), this electrical product must not be disposed of as unsorted municipal waste. Please dispose of this product by returning it to the point of sale or to your local municipal collection point for recycling.

In Übereinstimmung mit der Richtlinie 2002/96/EG des Europäischen Parlaments und des Rates über Elektro- und Elektronik-Altgeräte (WEEE) darf dieses Elektrogerät nicht im normalen Hausmüll oder dem Gelben Sack entsorgt werden. Wenn Sie dieses Produkt entsorgen möchten, bringen Sie es bitte zur Verkaufsstelle zurück oder zum Recycling-Sammelpunkt Ihrer Gemeinde.

Conformément à la Directive 2002/96/EC sur les déchets d'équipements électriques et électroniques (DEEE), ce produit électrique ne doit en aucun cas être mis au rebut sous forme de déchet municipal non trié. Veuillez vous débarrasser de ce produit en le renvoyant à son point de vente ou au point de ramassage local dans votre municipalité, à des fins de recyclage.

In navolging van richtlijn 2002/96/EG van het Europees Parlement en de Raad betreffende afgedankte elektrische en elektronische apparatuur (AEEA) mag dit elektrische product niet als ongescheiden huisvuil worden weggedaan. Breng dit product terug naar de plaats van aankoop of naar het gemeentelijke afvalinzamelingspunt voor recycling.

In ottemperanza alla Direttiva UE 2002/96/EC sui rifiuti di apparecchiature elettriche ed elettroniche (RAEE), questo prodotto elettrico non deve essere smaltito come rifiuto municipale misto. Si prega di smaltire il prodotto riportandolo al punto vendita o al punto di raccolta municipale locale per un opportuno riciclaggio.

De conformidad con la Directiva 2002/96/CE de la UE sobre residuos de aparatos eléctricos y electrónicos (RAEE), este producto eléctrico no puede desecharse con el resto de residuos no clasificados. Deshágase de este producto devolviéndolo al punto de venta o a un punto de recogida municipal para su reciclaje.

I henhold til EU-direktiv 2002/96/EF om affald af elektrisk og elektronisk udstyr (WEEE) må dette udstyr ikke bortskaffes som usorteret husholdningsaffald. Bortskaf dette produkt ved at returnere det til salgsstedet eller til det lokale indsamlingssted, så det kan genbruges.

I linje med EU-direktiv 2002/96/EG om avfall som utgörs av eller innehåller elektriska eller elektroniska produkter (WEEE) får denna elektriska produkt inte bortskaffas som osorterat kommunalt avfall. Bortskaffa den i stället genom att lämna in den på försäljningsstället eller din lokala återvinningsstation.

EU:n sähkö- ja elektroniikkalaiteromudirektiivin (2002/96/EY) mukaisesti tätä elektroniikkalaitetta ei saa laittaa lajittelemattoman yhdyskuntajätteen sekaan. Hävitä laite palauttamalla se ostopaikkaan tai viemällä se elektroniikkaromun keräyspisteeseen.

De acordo com a Directiva Europeia 2002/96/EC sobre resíduos sólidos de equipamento eléctrico e electrónico (WEEE), este produto eléctrico não pode ser deitado fora juntamente com o lixo municipal indiferenciado. Por favor, no final da vida útil deste produto, devolva-o ao estabelecimento de aquisição, ou entregueo no local de recolha apropriado para reciclagem designado pelo seu município.

V souladu se smrnicí EU . 2002/96/ES o odpadních elektrických a elektronických zaYízeních (OEEZ) se tento elektrický výrobek nesmí likvidovat jako netYídný komunální odpad. PYi likvidaci tento výrobek vrat'te prodejci nebo ho odevzdejte k recyklaci do komunálního sbrného zaYízení.

Vastavalt EL direktiivile 2002/96/EÜ, mis käsitleb elektri- ja elektroonikaseadmete jäätmeid (WEEE), ei või antud toodet visata majapidamisjäätmete hulka. Palun tagastage antud toode taaskasutamise eesmärgil müügipunkti või kohaliku piirkonna jäätmekogumise punkti.

V súlade so smernicou 2002/96/ES o odpade z elekrických a elektronických zariadení (OEEZ) sa toto elektrické zariadenie nesmie odstranovat' ako netriedený komunálny odpad. Výrobok odstránte jeho vrátením v mieste nákupu alebo odovzdaním v miestnom zbernom zariadení na recyklovanie.

24 WARRANTY

The product is covered by a one year guarantee ex-works by the manufacturer. Do not open the device. The guarantee shall not be valid if the guarantee seals are broken. The manufacturer shall not be liable for damages of any type deriving from or in relation to the incorrect use of the product.

25 DECLARATION OF ROHS CONFORMITY

To minimize the environmental impact and take more responsibility to the earth we live, in accordance with European Union Directive 2002/95/EC, known commonly as RoHS (*Restriction of Hazardous Substances*),

We herewith declare,

Axel Technology srl
Via Caduti di Sabbiuno 6/F
40011 Anzola Emilia – Bologna - Italy

that the product listed below complies with the requirements of Directive 2002/95/EC, Article 4, paragraph 1 with reference to hazardous chemical substances:

Lead (Pb)
Hexavalent Chromium (CrVI)
Mercury (Hg)
PBB (Flame Retardant)
PBDE (Flame Retardant)
Cadmium (Cd)

Product Description: **OXYGEN 5**

Authorized Company Representative:	Title of Signatory:	Date:
	Christian Sighinolfi – Technical Manager	10 October 2013

26 AXEL TECHNOLOGY IN TOUCH

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